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ABSTRACT

As a companion to a study of women in nontraditional training in postsecondary vocational education, a national survey of secondary women in area vocational technical schools (AVTSs) was conducted to determine what factors influence the occupational decisions and future plans of high school women enrolled in nontraditional vocational training, how these factors differ from those influencing women enrolled in mixed and traditional training, and what problems nontraditional women students experience. The sample included 1,062 nontraditional, 1,006 mixed, and 1,002 traditional women from 156 AVTSs in thirty-six states. Educational personnel named by the nontraditional women as influential were also surveyed. It was found that mothers are the single most influential person to all women; students perceive career education as the most influential counseling technique; and interest, not earnings, is the major reason for selecting a nontraditional training program. The largest single problem nontraditional students face is that of men adjusting to them in the classroom. One recommendation was that some traditional career counseling techniques (for example, individual testing) should be re-examined in light of the findings. (Appendixes include the demographic characteristics of surveyed students and educational personnel, methodology, reference tables, questionnaires, a glossary, and statistical symbols.) (LMS)

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Women in Non-Traditional Vocational Education in Secondary Schools

by

Roslyn D. Kane and Pamela E. Frazee

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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Bureau of Occupational and Adult Education

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Abstract

Women in Non-Traditional
Vocational Education
in Secondary Schools

The purpose of this study was to determine what factors influence the occupational decisions and future plans of high school women enrolled in non-traditional vocational training and how these factors differ from those influencing women enrolled in mixed and traditional training. Survey instruments were distributed to a sample of women at Area Vocational Technical Schools. Information from the returned surveys was computerized and analyzed. A sample of educational personnel named by the non-traditional women as very influential were also surveyed. Findings are summarized in the executive summary and presented in 12 chapters, including information on influential persons, the impact of counseling techniques, motivational factors, differences in math and science preparation, problems of women enrolled in non-traditional and mixed training, related employment of students, consideration of alternative occupations, post high school plans, characteristics of women in mixed vocational training, demographic characteristics and characteristics of influential educational personnel.

A sample of findings include: Teachers, particularly vocational teachers, are influential because of the subjects they teach not because they are male or female. Career education in the students perception is the most influential counseling technique in helping them select their training. Interest, not earnings, is the major reason for selecting a non-traditional training program.

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I. Background

The purpose of this study was to determine the factors that influence a woman's decision to select non-traditional training at a secondary vocational school; how the factors differ from factors that influence women to select traditional training; what problems women experience who are enrolled in non-traditional training. For this purpose our universe is women students in secondary Area Vocational Technical Schools (AVTS) nationally. These schools have the specific purpose of preparing students for entry level employment or further postsecondary vocational training.

This study of women in non-traditional training at the secondary level is a companion to a previous study of women in non-traditional training in postsecondary vocational education. As many of the questions as possible are framed in exactly the same way as the previous year's study so as to provide a basis for comparing the two studies. Results of the first study can be found in the publication, A Study of the Factors Influencing the Participation of Women in Non-traditional Occupations in Postsecondary Area Vocational Training Schools.

In analyzing the secondary school data, we have learned much more about the responses from women in postsecondary and secondary schools than can be reflected in this report. Since the issues are complex and the data are extensive, we were not able to present the issues for the secondary women and simultaneously compare the data from the two reports. An opportunity to make this comparison is expected, but until that occurs, the readers are urged to read the postsecondary report as it will provide a valuable second perspective on the characteristics and problems facing women in non-traditional vocational training.

The focus of this study is women who are enrolled in vocational programs to prepare for jobs which previously were held predominantly by men. These programs can be defined by the ratio of men and women who are enrolled in each course, and they can be defined by the stereotype image of their occupational skills.

The first method of classifying the training relies on definitions of courses as non-traditional, mixed, and traditional based on enrollment data classified by the U.S. Office of Education vocational education code. We have defined non-traditional programs as those in which 0.0% to 25.0% of the enrollees nationally are women. The extension of this definition includes mixed programs in which 25.1% to 75.0% of the enrollees nationally are women, and traditional programs in which 75.1% to 100% of the enrollees nationally are women. Lists of the non-traditional, mixed, and traditional courses appear in the Appendix. By all indications of our study, the rate at which women are beginning to enter non-traditional courses has probably already changed the classification of a few of the courses, which were initially borderline between non-traditional and mixed programs as defined.

Data from the 1974 Office for Civil Rights AVTS sample 1/ indicate that at the secondary level, 56% of all students were enrolled in non-traditional training, 14% in mixed, and 30% in traditional; but 87%, 9% and 4% of the men students, and 5%, 21%, and 74% of the women students, respectively, were enrolled in each type of training.

Table 1. -- Student enrollment in non-traditional, mixed, and traditional courses in AVTS, 1974

Type of training	Vocational education programs			
	Number of training classifications	Total enrollment (percent)	Men enrolled (percent)	Women enrolled (percent)
Non-traditional	59	56.4	87.4	4.9
Mixed	19	13.5	9.1	20.8
Traditional	38	30.2	3.5	74.3

SOURCE: Office for Civil Rights sample of AVTS.

Eighty-seven percent of the men students are enrolled in 59 non-traditional classifications, while 74% of the women are enrolled in traditional classifications. This information serves to re-emphasize the degree of occupational segregation that is served by the vocational education pro-

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1/ In 1974, the Office for Civil Rights sampled approximately 1,600 AVTS and requested enrollment data by course classification, race, and sex. (See Methodology.)

grams which could prepare men and women directly or indirectly for entry level jobs for up to 62% of the labor force, and up to 75% of the jobs women presently hold in the labor force. 1/

Non-traditional Masculine and Neutral Training

The second method of classifying the training is based on the approach defined by Saul Feldman in the Escape from the Doll's House. 2/ Feldman proposes the idea that there are professions which are perceived to be high in prestige (exciting developments, respected, best students), economic rewards, and power (stressing research and oriented to math) which are viewed as masculine professions or professions which are generally assumed to be dominated by men. Feminine professions were perceived to be lower in prestige with fewer economic rewards, more related to the humanities and teaching. A high correlation exists between the masculine perceptions of the courses and courses with a higher percentage of men graduate students in that profession. We have adapted this idea of masculine and feminine occupations to the non-professional occupations describing masculine occupations as those skills require strength, decision-making, physical persistance, and physical manipulation which women have been assumed to be lacking. These skills have been labeled "masculine" and occupational training which teaches these skills is called masculine. Those courses which teach skills which have not been stereotyped as masculine or feminine are called "neutral." New areas of training which have come into being with technological discoveries and which have not as yet been stereotyped are included in the neutral group.

Since one definition is based on enrollment and the other on the image of the job for which skill is taught, each training classification can be identified both ways. For example, the text refers to neutral non-traditional training. This is training where less than 25% of the enrollees nationally are women, yet the skills taught are not stereotyped

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1/ Employment and Earnings, Volume 24, No. 1, January 1977 (extrapolated) DOL/BLS.

2/ Feldman, Saul D., Escape from the Doll's House, (McGraw/Hill Book Company, 1974). On a scale of 1 to 7, 1-3 masculine, 3-4 neutral, 4-7 feminine.

as masculine or feminine. Drafting is an example of such a program. Paper and pencil drawing, measuring, and designing are skills which men and women use and although 92% of those enrolled are men, there is nothing that is peculiarly "masculine" in the tasks to be performed as would be true in the generally perceived image of construction or auto mechanics.

It has not been clear whether the issues and problems surrounding women entering non-traditional training have been due to the nature of the work or the fact that women have simply not been employed there and, therefore, are not easily accepted either in employment or in training for employment in these occupations. We have tried to further explore this question by making a finer break in the non-traditional sample to separate women enrolled in programs where nationally 0% to 10% of the students are women and the programs where 10.0% to 25% of enrollees are women. These data are then separated by masculine and neutral classifications as described above and then compared. By this method of analysis, the relative effect of percent women enrolled and sex-type image can be seen.

A list of masculine and neutral courses appears in the Appendix. Although our designation of masculine, neutral and feminine has served the purpose of presentation of the idea, there is a need to formalize the concept of masculine and neutral "image" training. This has not as yet been possible.

Sample Considerations

The sample includes 1,062 non-traditional, 1,006 mixed, and 1,002 traditional women from 156 schools in 36 states. The selection of schools, students, and method of analysis is described in the Methodology in the Appendix.

There are certain biases in our sample which should be noted in order to properly interpret the data.

The first area of low response is from particular states that do not offer secondary vocational education at Area Vocational Technical Schools. Iowa, Minnesota, North Carolina and Wisconsin are such states. California has a relatively small number of AVTS (only 21) compared to its population; several of these are specialized schools for the handicapped and several are large city schools from which we were not able to obtain clearance for the survey to be administered. Consequently, there is no school in our sample from California. All of these states noted to have had a low or no response have progressive, quality, vocational education programs and since several of these states are forerunners in assisting women to enter non-traditional vocational education, the study cannot reflect the impact of some of the newer programs which these states have implemented. Since it would have been impossible in a mail survey to separate students preparing for employment from those in non-job related vocational education in the comprehensive high schools, we elected to stay with the AVTS and accept the bias because we know that the vocational programs in AVTS are designed to prepare students for employment. It is this student population to which our study is geared.

Our sample also under-represents large central cities and, therefore, also under-represents Blacks and other minorities. An explanation for the cause of the absence of central cities and the resulting under-representation of Blacks and other minorities in the metro sample is discussed in the Methodology. A further study is needed to substantiate our central city and minority data to determine whether data from the central cities of the major metropolitan areas substantially shift our findings which emphasize responses from central cities in smaller SMSAs and suburban school districts.

Since our sample under-represents the central cities, the percentage of Black women in metro areas is lower than the percentage of all Blacks in the metro population. This is true for the Northeast where Blacks make up 11% of the population, but 4% or less of the sample. It is true for non-traditional and traditional women in the North Central and West where Blacks are 12% of the metro populations compared to 3% of our non-traditional and 4% of our traditional sample. The mixed sample, however, includes 9% Black women in the West and 17% Black women in North Central. In the South, where Blacks represent 19% of the metro population, in spite of the lack of representation of the central cities in the sample, Black women represent 47% of the mixed, 16% of the non-traditional sample in the metro areas but only 9% of the traditional sample. This would indicate, both relatively and absolutely, the high participation of Black women in non-traditional training in metro areas of the South and in mixed training in metro areas in all but the Northeast region (see Appendix Table C4).

Blacks and Other Minorities

Although one of the original intents of the study was to examine the differences among the minority and non-minority students, our sample of minority students other than Black was simply not large enough to establish its own statistical reliability. Data on other minorities tended to fail between the percentage response for the Whites and the Blacks, and therefore, adding the data from other minorities to that of Blacks tended only to obscure the issues for the Blacks and lend no clarity to the issues for all minorities. In all cases where the data show significant differences between the Black and White students, the data and analysis have been presented.

Metro and Non-metro

In separating schools by areas of high and low population concentration, we have used the metropolitan and non-metropolitan break as defined in the U.S. Census.

Schools in SMSA's, central cities, or suburban counties are included in the metro areas. The non-metro areas include small cities, which under the urban/rural definition would be urban. Many of the AVTS in these small cities serve one or more counties that are predominantly rural, and therefore, the metro/non-metro designation seems an appropriate description of the data base.

II. Executive Summary

A. Demography of the Students

1. Findings

- There are few differences in the demographic characteristics of the traditional, mixed or non-traditional sample. Some of the differences include:
    - There are comparatively more non-traditional women in the metro areas.
    - There are proportionately more Blacks in the mixed sample than in the non-traditional sample; and more in the non-traditional than in the traditional. The largest percentage occurs in the metro mixed sample.
    - Comparatively more of the Black sample is in the non-metro area, due to low participation of central city schools in the survey and the high incidence of Blacks in the sample from the South.
- Other demographic characteristics that differentiate among traditional, mixed, and non-traditional women are comparatively slight.

2. Implications

More women in metro areas enroll in non-traditional training, perhaps because they perceive that there are more non-traditional job opportunities in the metro area; on the other hand, it may be due to the fact that women are more traditional in the non-metro area. There are no demographic characteristics that define non-traditional women. Unlike the professional women, 1/ the non-professional women do not seem to be affected by demographic characteristics. For example, Astin in The Woman Doctorate found that non-traditional professional women's mothers were more likely to have worked than traditional professional women. 2/ Although their characteristics differ on the basis of race, income, education, and occupations of parents, these characteristics affect traditional, mixed, and non-traditional vocational women similarly.

1/ This was also confirmed in our study of women in postsecondary vocational education.

2/ Astin, Helen, The Woman Doctorate in America, (Russell Sage Foundation, 1969).

B. Characteristics of the Educational Personnel [1]

1. Findings

- More men than women responded to the questionnaire; and more teachers than counselors.
- Proportionately more vocational teachers responded than academic teachers.
- The profile of the respondents by education, years of teaching experience was very similar to 1972 vocational education study by NCES. [2]
- Educational personnel's perception of influentials and counseling techniques differ markedly from the perception of non-traditional students.

2. Implications

The educational personnel who influence non-traditional women are not "new" teachers. They are similar to other teachers, most of them in their position for five to ten years, experienced, and holding a BA degree. Most counselors have been working about the same length of time and hold a Masters degree in counseling. We can assume that the influential teacher and counselor is the "average" teacher and counselor.

Male vocational teachers do not perceive themselves as influential nor in their own estimation are they prepared to play this role. Nevertheless, the high response suggests there is a pool of interest and willingness among these teachers that has not as yet been adequately exploited.

On the other hand, the relatively small response from the academic teachers suggests that their important role in influencing women in career decision-making is not fully understood by other teachers and counselors. There is the need to reach beyond vocational educators and vocational counselors so that they have an understanding of the problems and issues and their role in assisting women to expand their career choices.

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[1] Designated as Very Influential by Non-Traditional Students Who Responded to the Questionnaire.

[2] Osso, Nicholas, Vocational Education: Characteristics of the Students and Staff, 1972, National Center for Educational Statistics, Office of Education.

C. Influentials

1. Findings

- Mothers are the single most influential person to all women. They are most influential to traditional women, least influential to non-traditional women, and midway between the two for mixed women. After mothers, fathers and female friends were the next most influential persons.

- School personnel were mentioned as very influential less than half as often as mothers and fathers.

- More traditional women are likely in all cases to be influenced than non-traditional.

- Although parents' education is positively related to parents influence, parents who are college graduates have less influence on their daughters in vocational education. There is a direct relationship between the amount of parents' education and the percentage of students who plan to seek an academic education. Relatively more students whose parents have less education plan to work and/or attend postsecondary vocational institutions.

- Counselors are more influential than teachers on all secondary school vocational students. Men counselors are more influential than women counselors, although this difference is greater for non-traditional and mixed women than for traditional women.

- Both counselors and teachers had more influence on traditional women than non-traditional women. For mixed women, counselors are as influential as they are to traditional women; but teachers influence proportionately fewer mixed women and they influence still fewer non-traditional women.

- Men educational personnel are most influential on non-traditional women; and women on traditional women. Mixed women are influenced by men and women about equally.

- Overall, junior high school counselors and teachers are not very influential. On the other hand, 40% of all teachers other than vocational education teachers 1/ who are influential are junior high school teachers.

- The issue of influence of male teachers versus female teachers is predominantly a result of the sex of the vocational education

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1/ These were teachers who taught academic courses, physical education, art, and career education.

teachers. In all cases, the sex of all influential teachers other than vocational education teachers are equally divided between men and women teachers.

2. Implications

The breadth of the educational personnel that can potentially influence a woman in her career decision-making requires that all educational personnel be able to assist her as her need crosses their ability to help her. All educational personnel may need some support and some training in order to be able to provide the support of those that seek their assistance. This includes junior and senior high school teachers, academic as well as vocational, men and women, counselors as well as teachers. The issue of influence of male teachers versus female teachers is predominantly a result of the sex of the vocational education teachers. In all cases, influential teachers other than vocational education teachers are equally divided between men and women. Since more men teach non-traditional vocational courses, and more women teach traditional vocational courses, this accounts for non-traditional women selecting men teachers, traditional women selecting women teachers, and mixed women selecting men and women teachers about equally.

Although it is unlikely that students will have many vocational teachers in junior high school since new VETS definitions eliminate all junior high programs from the definition, the fact that 40% of all influential teachers other than vocational teachers are from junior high schools suggest that junior high school teachers have the potential for greater influence than the overall data indicates.

The network of support must include all educational personnel and must be able to reach out beyond the school and train parents so that they too will be able to provide informed support when they are called on. Programs designed to assist women in occupational decision-making should include parental involvement since they have the potential to have a significant positive or negative influence on non-traditional students' decision-making.

Parents' lack of a broad base of occupational information may limit their ability to advise their daughters constructively. It would appear that if parents are to be able to influence their daughters who are interested in non-traditional occupations, this influence should be brought to bear when the women are as young as possible. Early increase of occupational information available to parents is likely to be beneficial to students' decision-making.

Parents are the most influential group on non-traditional students, but, by and large, unless they have specific relevant information, the parents' role is likely to be that of supporting and encouraging students rather than assisting them in their career decision-making. What is more, parents who attended college are likely to influence their daughters already enrolled in vocational training to move in to academic areas. This seems to be even stronger among the parents of non-traditional than traditional women.

During the high school years, young women are most involved in determining the context of their womanhood, which makes it the most difficult time of all for a woman to decide she wants to undertake non-traditional vocational training. Unless she has an overwhelming interest, it is unlikely that she will even consider it. It may also be difficult for her to deal in an intelligent balanced fashion with any job within the framework of reality. The new acceptance of work in the life of women is no where near as generally accepted as it is in the life of men.

It is not only that women have difficulty selecting a non-traditional program, but that it is also difficult to select non-academic education within the social context of the school. One cannot deal with the idea of women making a choice between traditional and non-traditional education without dealing with the entire issue of the role of vocational education within the school system, and the greater approval that goes to the college preparatory students versus the vocational student. For women who consider a non-traditional program, the problem is even more difficult. Teachers and even counselors are likely to influence women toward academic goals, and parents who have themselves attended college are likely to influence women students into academic pursuits. Within that context, the students selecting a non-traditional vocational program may find little support anywhere for such a decision. If young women in secondary school are to have the opportunity for occupational choice across all possible jobs, they will need much more support for such decision-making than is presently available to them.

D. Counseling Techniques

1. Findings

- There was considerable agreement among all three groups as to which counseling techniques are useful and which are not useful to students in their career decision-making.
- Career education, career orientation and job site visitation were the counseling techniques that were positively received by traditional, mixed, and non-traditional women.
- The response of students who participated in these programs was even more positive. Sixty-five percent of all non-traditional women who participated in career education indicated that it was very influential on their career decision-making.
- Only about 27% of the participants considered individual counseling of value in their career decision-making; fewer considered vocational testing or group counseling of value. Although individual counseling followed by vocational testing were available to most women, and three-quarters of the women participated in individual counseling and half in vocational testing, these techniques were less than half as influential as career education, career orientation, or job site visits.
- Black women were more likely to be responsive to techniques that White women rejected; and less responsive to techniques that were more positively viewed by White women. This may be due to lower availability of these latter programs. Individual counseling was more influential to Blacks than to Whites, more influential on women with low income than on women with higher income.
- Although no group held vocational testing in high regard, women's responses indicate that it was more influential on traditional than on non-traditional women, which seems to confirm that non-traditional women students reject vocational testing because of its sex bias.
- Group counseling was not viewed favorably by students as other evaluations of its utility would indicate might be expected.
- More traditional women stated they participated in job site visits and meeting with industrial representatives than did non-traditional women.

- Educational personnel did not consider any counseling techniques NOT USEFUL; and all of them considered individual counseling useful. On the other hand, from 25% to more than 75% of non-traditional vocational students found the techniques NOT USEFUL Even the most influential educational personnel lack insights to permit them to identify those services which are not useful to their students.

- Both educational personnel and students considered job site visitation very useful.

- Educational personnel indicated that their school systems did not use prepackaged materials; although half were in favor of in-service training. The counselors recommended training for teachers and teachers felt it would be particularly valuable for the counselors, but both felt their schools would accept such training.

2. Implications

Considering the absence of support for individual counseling as expressed by the students, the positive response of all women students, particularly non-traditional women, to career education (as well as to career orientation and job site visitations) is an important finding. Career education, career orientation, and job site visitations each offer a real involvement of the student in the decision-making. Each provides the student with information or actual experiences requiring that she draw her own conclusions. Women vocational students were apparently less likely to be influenced by ideas imposed on them by others. Non-traditional women reject the use of individual counseling or of vocational testing to provide them with answers that may be subject to bias.

Since career education is still an evolving program that varies from one school system to another, it is essential that the components of the programs that were influential to women students be defined. In order to be able to replicate the essential components, these programs that have produced successful outcomes should be analyzed and defined.

We must also determine why career education and career orientation have had less influence on the Black women in the sample since Black non-traditional women in the postsecondary study considered it particularly influential. 1/ It is possible that it is due to a lack of availability of career education of Southern schools that had a large number of Blacks in their sample. Individual analysis of several schools with a high enrollment of Black women confirmed the fact that many did not offer the program.

Although the question was not posed to the students, educational personnel responding were unanimous in their recommendation of the need for counseling support programs. Such recommendations, however, have not been converted into any real expansion of programs to address specific and particular problems of young women in vocational training.

The response to vocational testing particularly by non-traditional women suggests that the sex bias in these tests that has been documented in the past is producing negative responses in women who select non-traditional training. This opens serious questions as to whether the vocational testing of women should be discontinued until less biased tests can be developed and tested. There is no evidence that vocational testing when it is successful is of such overwhelming value that the negative aspects do not outweigh any possible values.

The job site visitation program is relatively inexpensive, and not difficult to put in place once it is organized. Every effort should be made to expand the number of women who can be usefully involved in such programs. The visitations should be structured to assure that students are sufficiently informed before hand that during the visit they can raise the appropriate questions for their decision-making. A checklist should be developed for students to assure that they approach the job site analytically, to assist

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1/ Rj Associates, Inc., A Study of the Factors Influencing the Participation of Women in Non-traditional Occupations at Postsecondary Area Vocational Training Schools, (November 1976).

students to know what to look for, to learn not only what you do on the job, but where you do it, and under what circumstances.

The data on availability and participation suggest that programs other than those operated by the school are providing job site visitations and opportunities for industrial representatives to meet with women. It can be surmised that such programs as those offered by agencies such as YMCAs, Campfire Girls, Girl Scouts, emphasize traditional occupations for women rather than offering a cross-section of all occupations. For this reason, young women who are interested in non-traditional occupations may avoid participating.

Group counseling also requires a retesting to determine whether or not the best available techniques are being used. Traditional women find little use for group counseling of mixed groups of men and women and to the extent that it receives any support, it is from the non-traditional students who are pursuing the same careers as some men in the group. It is because of the presence of the men in the group that decision-making about the occupations of interest to non-traditional women dominate. Although groups of women have been found to offer mutual support, programs designed to counsel groups of women are only rarely available to women in vocational training and cannot be said to have been as useful as they should have been to the women who have participated. It would appear that these programs are not maximizing the potential of the support network that the data indicate could be established. Experimental programs should be established that would incorporate group counseling techniques which have been successful in other settings to determine whether improved techniques can be more successful with this population. Evaluation of programs now being carried out in the field would determine what is being offered under the rubric of group counseling.

This study does not support the continuation of the models currently in practice mainly due to the massive utilization of individual counseling. Every effort must be made to utilize the techniques that have indicated their usefulness to students. The influence of career education, career orientation, and job site visits is so positive compared to the lack of usefulness of individual counseling and vocational testing, in the estimation of the women students, that serious consideration must be given to redesigning counseling programs to shift funds and produce models that would be more useful.

Educational policy, particularly the amount of time and money which ought to be spent on specific counseling techniques should be based on some rational evaluation of the impact that each of the techniques is having on students. The data here indicated that several techniques frequently utilized are not influencing the decisions of vocational education students to an extent which would justify their widespread use (or cost). Such evaluations of each counseling technique are overdue. If the results are similar to these findings then new policies ought to be developed, and counselors' roles or approaches should be reconsidered in light of new evidence.

E. Motivations

1. Findings

- Interest is the single most powerful motivation influencing three-quarters of the traditional and non-traditional women; mixed women found it less important a factor than other women with two-thirds of mixed women naming it as an important influence.

- Interest was more significant for women in masculine occupations than women in neutral occupations. Interest is apparently the strong source of motivation that encourages women to enter these non-traditional occupations. All other motivations had greater impact on neutral women.

- Among the women who plan to work, the group with high interest motivation, were those who plan to work in their area of training. White women from higher income households are particularly influenced by interest.

- Half of all non-traditional and mixed women were motivated by ability, the second most important motivating factor; an even larger percentage (60%) of traditional women were so motivated. The group that is most influenced by ability are traditional women planning to enter a postsecondary academic career.

- Earnings was the least powerful motivating force for non-traditional and traditional students; it was much more influential to mixed women. Black women and low-income women, particularly mixed, are most influenced by earnings.

- Educational personnel agreed that interest was the most important motivating factor, but they thought earnings was more powerful than students indicated it was.

2. Implications

Interest in the occupational area is far and away the most influential factor in encouraging women to enter non-traditional training. But little is done to stimulate interest early enough. Since the stereotype of what women should do occupationally is fairly universal, particularly for women who are not aspiring to a professional career, then regardless of income, parents occupations, etc., women students all need the same kinds of information and exposure if they are to consider training for non-traditional occupations. Secondary school women, in particular, need adequate information and early exposure to a variety of occupations to stimulate their interest early enough to provide them with the opportunity to test out and develop their ability in areas in which they have an interest. It would appear that the easiest way to change attitudes about stereotype is by relying on stimulating their interest.

Earnings have been considered a critical factor in motivating women to enter non-traditional occupations. This commonly held assumption was also expressed by educational personnel who considered earnings a major factor influencing the non-traditional students. Student responses, however, showed that earnings was not as important a factor for non-traditional women as it was for traditional and particularly for mixed women. However, low income and particularly Black women considered earnings a more important factor in their choice of occupational training programs than more affluent or White women. Earnings as a means of motivating secondary school students must be used selectively taking into consideration the characteristics of the students, rather than being offered as a motivating factor indiscriminately across the board; or as a motivation uniquely to encourage women to enter non-traditional programs.

Non-traditional women consider ability in their area less important than traditional women. When non-traditional women feel that ability is much less important than interest, it can be interpreted to mean that they question their own ability and, therefore, decide that it is not that important. For this reason, non-traditional women will need considerable reinforcement. It is probably going to be easier for them to attain increased confidence in their ability in a controlled placement situation than it is going to be to obtain it in the classroom.

The relatively low response of Black women to ability as a motivating factor may indicate lack of security in their own ability, and because of that, there is a very great need for reinforcement of Black women to increase their confidence in their own ability. There is a marked shift of the Blacks away from work and postsecondary vocational programs and toward postsecondary academic programs on completion of high school; this prevails across non-traditional, mixed and traditional classifications. This shift of the Black women is not related to other characteristics--i.e., low income or mother or father's education. It is very possible that some of the women who intend to shift to other areas of work are reflecting a lack of confidence in their ability.

For many secondary school women, their whole expectation of performance revolves around ability as demonstrated academically, and they will need a great deal of reinforcement if they are to overcome their self-doubts. The problem cannot be blamed on the weak inner city schools, since central city schools in major metropolitan areas are poorly represented in our sample. Improving their skills acquisition can increase their reliance on their own ability.

The data from our study indicate that there is much flux and indecision among secondary school women, with about 30% of the vocational students selecting academic post-high school pursuits. (In our postsecondary study, 37% of our non-traditional sample came from college preparatory students.) This suggests that the mismatch of students contributes to a substantial time waste. This could be avoided in many cases, if students had the opportunity for broader exposure before they made their occupational decisions.

In our two studies, this seems to be a greater problem to mixed students and non-traditional students. The nature of adolescence has apparently a major impact on the shifts observed in mixed and non-traditional women. The issue may be that many shift their interest several times between 16 and 35. Yet, women in traditional occupations are apparently much more secure in their selection of training for an occupation, perhaps because in conforming to the stereotypes they perceive fewer alternatives to consider.

The issue of motivation is, therefore, very complex. Secondary school women have difficulty obtaining adequate information or being exposed to enough areas to stimulate their interest early enough so that they have the opportunity to test out and develop their ability in areas in which they have an interest.

In order to attract women into non-traditional occupations something more than higher earnings must be offered. Although there are persons who for good reasons are attracted by the earnings of non-traditional occupations, other women who are equally attracted by earnings choose traditional occupations. It is possible that these women are bound by their stereotypes or their rural isolation and are, therefore, choosing the occupation with the highest earnings or potential earnings of the adult women whom they know. Students apparently still make their occupational choices largely among those occupations in which women they know are presently employed.

The problem that must be overcome is the need of young women to acquire adequate information on which to make mature choices without internal or external pressure and with sufficient knowledge for them to be able to follow through on their rational decision.

F. Math and Science

1. Findings

- There are few differences in the number of years of math or science taken by non-traditional, mixed, or traditional women. They take more math than science and more of both than might have been expected.
- Non-metro women take more math and science than metro women.
- Few women perceive that men take more math and science than they do, and fewer yet perceive that this is a problem. Only 8% of women in training for masculine occupations felt men had more math.
- Women who intend to enroll in an academic program on completion of high school take more math and science than do women who intend to enroll in postsecondary vocational programs or who intend to work.
- The number of years of math or science taken by students is related to the number of years of education of their parents.
- Proportionately more Black non-traditional women take math than White non-traditional women or than Black traditionals.

2. Implications

This study further confirms the fact that math and science are not perceived to be a critical problem for women preparing for non-traditional non-professional occupations. 1/ The issue identified by non-traditional women was their absence of technical subjects (see Problems and Difficulties) as opposed to math and science, but in all cases, the percentage of women who perceive that the fact that men took more technical subjects than they could cause them a problem, was relatively small.

Women who plan to work and/or are considering apprenticeship, will need math in order to pass their entry examination, and will need math for their related instruction. 2/ One can attribute relative lack of math of the non-

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1/ Rj Associates, Inc., Factors Affecting the Participation of Women in Non-traditional Occupations in Postsecondary Area Vocational Training Schools, (November 1976).

2/ Rj Associates, Inc., Problems of Women in Apprenticeship, (November 1977) under contract with the Bureau of Occupational and Adult Education, Office of Education, DHEW.

college bound either to the fact that their teachers and counselors are inadequately informed, or that educational personnel are not sufficiently interested in students who are not motivated to undertake an academic program. In either case, it is a serious oversight.

Women have been struggling to eliminate "the math filter" in order to increase access to employment in professional occupations; there is a need on the part of schools to encourage all women, particularly women preparing for non-traditional and mixed occupations, to take as much math as they can schedule; for certain occupations this is equally true of science. It is essential that not only counselors, but teachers as well, should be so informed and should encourage all high school women to take as many of these subjects as they can manage.

G. Problems and Difficulties

1. Findings

- Sixty-five percent of all non-traditional women had problems; and of those with problems, 58% had two or more problems.

- Fewer (56%) mixed women had problems and somewhat fewer (53%) had two or more problems.

- Individual problems that cause difficulties for non-traditional women were more likely to be related to men in their class than to their teachers. The problems that gave non-traditional women problems:

  -- men had difficulty adjusting to women;
  -- men are better prepared; and
  -- teachers expect more of women.

  No other problem seemed to cause students such difficulty. Teachers Expect More of Women was the only problem that caused an appreciable number of mixed women problems.

- The number of women in the class is a critical factor. More women in classes with three or less women classmates have problems, and those that have problems have more problems. Fewer women in classes with six or more have problems, and if they have problems, they have fewer problems.

  This was not an issue for mixed women, since only 12% of women in mixed classes have less than six other women in their classes.

- Black women and low income women have more problems than other women.

- Although women in non-traditional low concentration courses have a higher incidence of problems than do those in high concentration courses, the differential in most cases is not so great as the differential between women in masculine courses (78%) compared to women in neutral courses (60%). This was particularly true for problems involving the adjustment of their fellow men students and their perception that Men Students are Better Prepared.

- Teachers Expect More of Women is the only individual problem that affects a large percentage of the mixed group, and after Men Have Difficulty Adjusting to Women is the greatest problem for non-traditional students. The data in many ways reverse the patterns of all other problems and opens many questions as to the cause of its excessively high but varied response rate.

2. Implications

The largest single problem identified by women is the problem of men adjusting to women in their classroom particularly where there are very few women in the classroom. More women have problems with their fellow men classmates than with their teachers. However, responsibility for maintaining a positive working atmosphere in the classroom rests with the teacher and teachers clearly have either been unable to control the harassment in the classroom, or have not invested enough effort in its control. Everything from teasing to harassment at job sites, has been reported as a problem of serious concern. This problem is reported by the women in high schools, postsecondary schools, 1/ on job sites, and by apprentices. 2/ It is unlikely that men students will learn to adjust to women students, until the teachers insist on better behavior by men who appear to be protecting their "turf."

In order to bring this under control, there can be no overt or covert acceptance of the harassment on the part of the teachers (or supervisors). In addition to firmness on the part of the teacher, there are certain other approaches that can be tried. The administration can monitor classes that are known to be having difficulty. This would impress upon the teachers that their permitting such activities will not be tolerated. The provision of training to the teachers might help the situation. In the use of the buddy system women and men can be required to work together, so that their learning will depend on the woman's learning.

1/ Rj Associates, Inc., Factors Influencing the Participation of Women in Non-traditional Occupations in Postsecondary Area Vocational Training Schools, (November 1976).

2/ Rj Associates, Inc., Problems of Women in Apprenticeship, (November 1977).

The storekeeper of a vocational class could be an excellent job for a woman, particularly a community person from the neighborhood. If the person has a given amount of power in the community, it may serve to slow down a group of hotheaded boys.

Placing women students in employment related to their training can also be helpful. If women have the opportunity to work with adult males, it may help them to make adjustments. Another approach is using a team teaching approach utilizing a woman teacher to teach the cognitive skills while the vocational education teacher handles the manipulative skills.

Solving the problem of harassment will require the investment of considerable amount of effort, since very few creative solutions have been suggested to solve the problem. The problem seems to be surfacing everywhere and will require that all successful approaches be accumulated and disseminated to assist teachers in getting a handle on it.

The problems associated with women enrolled in masculine programs as opposed to the women in neutral programs has been reinforced by the data in this study. Women enrolled in masculine occupations have more problems than women in low concentration courses. The problems would appear to be associated with perceptions,the perceptions of women, of the teachers, and their student peers that certain courses are appropriate for women and others are not. It is apparently the perception of women students, the men students, and the teachers that women in masculine-imaged training are different. It will require additional effort to assist women to make adjustments in these types of classrooms.

Educational personnel have stated that they do not know how to reduce the harassment. 1/ Educational personnel agree that they need more in-service training; this is one of the issues which could be included in such

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1/ Those named by non-traditional students as very influential on the students selection of training (see Appendix B).

training for vocational teachers. There is evidence that circulation of pre-packaged material, although presumably a simpler method of addressing the problem, is not likely to accomplish the purpose.

Teachers and men students are apparently better able to adjust to women when there are more of them in a predominantly male classroom. Since many non-traditional classes offer little opportunity for women to gain this kind of support, if more than one section of a course is being taught, wherever possible, women should all be scheduled into the same classroom. So clear cut is this issue of group support that the negative response on the part of the women to group counseling indicates that what is being offered as group counseling available to secondary school vocational students do not incorporate the elements that have made such programs so successful under other conditions.

Teachers Expect More of Women

The puzzling data reported on this issue may only be a reflection of some other factor that requires further analysis or further information. Further study is needed to determine the reason that the percentage drops off among non-traditional women. It may be due to the fact that women in masculine-image courses do not have the problem because their self-image is so strong. The explanation may be that women in non-traditional programs, particularly those that are masculine-image demand so much of themselves, that the demands of teachers are comparatively inconsequential. These are the "superwomen," whose standards are so high for themselves that they find no difficulty in responding to any expectation of the teacher. It may also be due to the large percentage of 9th and 10th graders that have a different profile than other non-traditional women, particularly due to the larger number of women in these grades enrolled in masculine-image courses. It is possible that the relatively high percentage of 9th and 10th graders in non-traditional courses may be skewing the entire non-traditional data.

Since the Problems and Difficulties questions were not asked of women in traditional training, it is impossible to surmise whether young women entering traditional areas also have problems adjusting to the different expectations of senior high school, or whether it is only women in non-traditional and mixed occupations that are made to feel that they are required to compete with men to their disadvantage.

High school teachers frequently expect women to be more responsive and to do better on tests, because in the academic areas in high school this expectation may be reality. On the other hand, when a woman student moves into a vocational area, particularly one that is not traditionally a women's area, her expectations of what the teachers will expect of her may be quite different from what she feels she can produce. It would appear that part of the problem the women feel is real, and part is only a reflection of their perception of reality. Some of it may be because the teachers actually do expect more of women and some of it may be that the women students perceive that demands are being made of them that they find difficult to fulfill.

In non-traditional programs, the stereotype is that women can't produce as well as men, and therefore, in order for women to be equal they interpret it that the teachers expect more of them. For the young women who are not sure of themselves, who may be still living within their own stereotype of women's capabilities in non-traditional areas, they do not expect as much of themselves as they believe that men can produce. Clearly, teachers should be sensitive to this issue, particularly as more women start moving into non-traditional programs.

H. Employment

1. Findings

- More traditional students were employed than non-traditional or mixed. Students likely to be working include:
  - More students of higher income
  - More White than Black
  - More Black mixed women than other Black women
- An almost equal percentage of traditional women were employed in metro and non-metro areas; more non-metro than metro non-traditional; and more metro than non-metro mixed women were employed.
- Low income women who most needed the income from employment were least likely to be employed.
- A very small 18% of non-traditional students were employed in occupations related to their area of study. Twice as many traditional women and even more mixed women were employed in related jobs.
- Non-traditional women intending to enter academic programs were the most likely non-traditional students to be employed. Traditional students who intend to enroll in postsecondary vocational schools had equally high employment.
- Schools helped very few students find jobs, but when they did help, the students were much more likely to be employed in job-related positions. The schools were able to place more traditional women in job-related occupations than mixed or non-traditional women. Without the schools, students had much more difficulty finding a related job.
- Women studying in masculine non-traditional courses and in mixed courses had the best record of finding their own job-related placements.
- Educational personnel believed that it was more difficult to place women than men; more difficult to place non-traditional than traditional women. However, some vocational education teachers who themselves placed students indicated that it was easier to place non-traditional women because employers were seeking women trained in non-traditional occupations.

2. Implications

Employment of women in related occupations during training can be an extremely important factor in improving their education and training. Such experience will be useful in improving their skills, easing their transition from school to work, increasing the confidence of non-traditional women in their ability to perform "a man's job, in a man's world." Further, related employment, probably because it reassures the women of their ability to do a job, is related to a "successful" career decision. More women who had worked in a related job during high school were planning to go to work in a related job after high school. For these reasons, job development in training-related areas is an important service that some schools provide. Unfortunately, it has benefited proportionately more traditional and mixed students than non-traditional students. More schools should undertake these programs either independently or in coordination with a placement office. Schools need not operate their own placement programs, but they should formalize their relationships either with industry or with the Employment Service. When such a program is undertaken, equal emphasis should be given to the development of jobs for women as well as men, and for women in non-traditional as well as traditional training.

Based on the responses of the educational personnel, more than half of all schools have some placement system, and 33% provide at least some informal placement services through the teachers, counselors, or relationships established with industry or the public employment service. Unfortunately, school placement services have not been adequately emphasized as an important factor in the retention of non-traditional women in their area of training. Fewer non-traditional women working in related jobs have problems, and, although more women who plan to enter an academic program on graduation are working, more women who are working in related jobs intend to remain in the field in which they are training.

The fact that women training in the masculine-imaged courses have the best record of finding their own job-related placements, suggests that if the schools extended an equal effort they could do an even better job in placing them.

Emphasis should not be on placement in a job for the sake of a job, but rather on placement in a job related to what the student is learning in school. The problem of learning to relate to men fellow workers can be best accomplished in a program that is monitoried and supported by the schools.

Although our study does not include the record of placement on completion of school, data from employment and training programs indicate that persons working in an on-the-job training situation have the best placement records on completion of the program. 1/

1/ Ripley, Randall B., CETA Prime Sponsor Management Decisions and Program Goal Achievement, U.S. Department of Labor, R&D Monograph 56, 1978.

I. Alternative Occupations

1. Findings

- Only slightly more than half of all women seriously considered entering an occupation other than the one for which they are presently training.

Of those who seriously considered an alternative:

- Almost half of all mixed and traditional women considered traditional occupations as alternatives.
- More than one-third of traditional, mixed, and non-traditional women considered mixed occupations as an alternative.
- The percentage of women who considered non-traditional training as an alternative was small (17% of traditional women and 21% of mixed women).
- More than half of all women considered professional and technical occupations before settling on the area in which they are preparing themselves.
- The profiles of all three groups in their consideration of alternatives was remarkably similar except that more non-traditional women considered technical occupations as alternatives and to a lesser degree considered other skilled occupations.

2. Implications

Thirty-six percent of traditional women who considered an alternative occupation considered an alternative in the mixed occupations. This is equal to 20% of the entire traditional sample, if those persons who considered no alternatives at all were included. Had this 20% of traditional women received additional support and encouragement, 50% more women might have enrolled in mixed occupations. It is quite possible, therefore, that a larger number of women could be moved into mixed training in the immediate future, producing a situation that could markedly reduce the number of women who are being trained for occupations that are traditional.

An essential component of any large scale effort to encourage women to enter mixed training must be a careful analysis of the demand in the labor market for persons trained in these skills. In some areas the demand is self-evident. The largest percent increase in employment in the central cities during the past decade has been in the health occupations, but the health service occupations (traditional) have expanded more rapidly than the technical health occupations (many of which are mixed).

The business occupations, many of which are offered in secondary schools, as well as postsecondary vocational institutions have been steadily expanding; business data processing occupations continue to be demand occupations in most parts of the country. Supervisory and management positions particularly in the clerical field offer an excellent opportunity for women. Employers seeking supervisory positions into which they can place women already see this as an "easy" placement. Men (and sometimes women) are more comfortable placing women in the role of supervising other women than in supervising men.

The primary issues to be considered in alternative occupations are exposure and support. If women only consider traditional occupations they are unlikely to select any occupations save those that are traditional, and the greatest source of information about jobs remains the jobs that are held by the people students know. Since the vast majority of students only know women working in traditional occupations, efforts must be expanded to expose women students to alternatives with which they are not familiar. Once women students start to consider alternatives, they must receive all the support that can be mustered from parents and the media as well as from educational personnel to make their choices plausible and not socially unacceptable.

Creating the opportunity for exposure (see Counseling Techniques) will take self-examination and effort on the part of the educational establishment, as well as a determination to work with parents, industry and the community to make the broader choices acceptable.

J. Post High School Plans

1. Findings

- Forty-three percent of non-traditional, 47% of traditional women, and 49% of mixed women plan to work after graduation.
- Among the groups who will work after high school, there are marked differences in their plans. Seventy-nine percent of the traditional students, 52% of non-traditional students, and only 32% of mixed students plan to work in traditional, non-traditional and mixed occupations respectively.
- A smaller percentage of Black women plan to work than White women, traditional and non-traditional.
- Thirty percent of all vocational education women intend to enter an academic program on completing high school.
    - Women whose parents attended college are less likely to plan to work on completion of high school, and more likely to attend postsecondary academic programs.
    - Comparatively more women who are influenced by teachers are planning to enter a postsecondary academic programs.
    - Compared to other women in the sample, more mixed and more Black women, particularly Black non-traditional women plan academic careers.
- Sixteen percent of all traditional and non-traditional women and a slightly smaller percent of mixed women plan to attend postsecondary vocational programs.
- Although there may be shifts from one specific training program to another all non-traditional students who plan to attend postsecondary vocational education will enroll in non-traditional training, mixed in mixed training and traditional women in traditional training.

Planning to Go to Work

Some critical differences are apparent among those who plan to work. Among non-traditional, those planning to work are less motivated by interest, proportionately fewer have considered alternative occupations, fewer have been influenced by counselors or teachers, and considerably fewer are certain in what area they will work compared to non-traditional women who will enter postsecondary vocational programs.

A higher percentage of traditional women plan eventually to work in the area in which they are training (62%) than non-traditional women (45%). A higher percentage of women in training for masculine occupations (49%) plan to work in their area of training than women in training for neutral occupations (42%).

A larger percentage of women seeking jobs in the same area in which they have been training are motivated by interest (84% of non-traditional; 73% of mixed; and 79% of traditional women) as against those who plan to work in an area different from the one in which they are training, (58% non-traditional, and 65% of mixed and traditional women).

Those who are certain that they will work, but that will NOT work in the area in which they are training, have a higher incidence of problems in the classroom than other women.

The data indicate that the schools have been least successful in preparing non-traditional and mixed students who plan to work on graduation compared to women with other plans. Women who plan to work appear to have least interest in their vocational choice. Relatively fewer have considered other alternative occupations, and they have been proportionately less influenced by educational personnel. Of the non-traditionals, 48% are planning to seek jobs in areas other than those in which they are training. Sixty-eight percent of the mixed (compared to only 21% of the traditional) women state they will seek jobs in areas other than those for which they are training.

Planning to Go to Postsecondary Vocational School

A higher percentage of neutral women (51%) plan to attend a postsecondary vocational program in the same area of training compared to women in masculine programs (41%).

Women who plan to enroll in postsecondary vocational training appear to be relatively the best served by the vocational schools. Their interest motivation is high relative to other women, and a higher percentage of these women are also motivated by earnings. They are at least as influenced by senior high school teachers and counselors as those planning to enter academic programs and more influenced than women who intend to go to work on graduation. Sixty percent have definite plans to eventually work in the area in which they are now training and although they may enroll in a program slightly different from the programs in which they are presently enrolled--the non-traditional women plan to enroll in non-traditional programs, mixed in mixed programs, and traditional in traditional programs. Only 28% are uncertain as to whether or not they will work in the area in which they are training. Although this percentage may seem high, relative to groups with other post-high school plans, it is quite low. Since the intent of the vocational schools is to prepare persons for work or for further vocational training, these data are some indication that the schools are succeeding with this group.

Planning to Go to College

Non-traditional women who plan to enter an academic program may have used their high school years as a period of exploration and are more likely to come from families whose parents have some college education and have higher household incomes. These women are more likely to have considered alternative occupations. Only 39% intend to work eventually in the area in which they are training.

Fewer non-traditional women who plan to attend an academic program have problems in the classroom, and fewer have multiple problems. Counselors and teachers have greater influence on traditional women planning to attend an academic program or postsecondary vocational technical program (49%) than on those planning to go directly to work (40%). All non-traditional women regardless of post-high school plans are equally influenced by counselors, but teachers have more influence on those who plan to enter an academic program.

Interest is a very high motivation for such traditional women with academic plans and comparatively high for mixed and non-traditional women. They are also very high on motivation on the basis of their ability. All are low on motivation on the basis of earnings, particularly the non-traditional women.

More women who are planning to enter academic programs are working while attending school than those with other post-high plans.

The question must be raised as to why these women entered vocational education initially. It appears that having explored vocational occupations, their college educated parents, teachers and counselors have now convinced them of the value of a college education.

Influence of Motivation on Post-High School Plans

The influence of earnings is somewhat different for women with differing post-high school plans.

It is important to note that earnings does not seem to be a primary motivating factor for non-traditional women. The largest percentage (those entering a postsecondary vocational program) who think earnings is very important also place the most emphasis on interest as a motivating factor. Therefore, the attempt to attract women into non-traditional training by emphasizing earnings does not seem productive. Once the interest is established, these women may be motivated by earnings to continue their training at a postsecondary vocational school.

Among women who have not determined what kind of job they will seek after graduation, those who had selected non-traditional training in secondary schools are more interested in earnings and place less emphasis on their ability. Conversely those who selected traditional training in secondary school were less interested in earnings and more in their ability.

Although further research needs to be done on this issue, our present conclusion is that women who have earnings as a primary motivation are not as likely to place a large emphasis on ability and less on interest. Presumably these are the women who are attracted to occupations which are presented by their family, by the media,and by the schools as being economically rewarding.

Our data would indicate that women who make the choice (usually on the basis of interest) to enter non-traditional training need constant reinforcement, if they are going to seek non-traditional employment. Further study is needed to determine why so many non-traditional women seek employment in other than non-traditional jobs,or by switching to an academic program. This is particularly true of Black women, 43% of whom plan academic programs and another 5% of whom plan to work in areas other than those for which they have trained. Further study is needed to determine if they remain in academic pursuits, or if they leave, whether they seek traditional or non-traditional jobs. Although the original choice may be critical, their willingness to remain with that choice is an equally critical factor, for which as yet we have no answer.

K. Mixed Women

1. Findings

The findings on mixed women have been incorporated into the other sections where specific issues affecting mixed women have been discussed in relation to non-traditional and traditional women.

2. Implications

The data from this study confirm the preliminary findings from our post-secondary study that women students training for mixed occupations are a separate group with characteristics that differ both from the traditional and the non-traditional women. The mixed occupations offer women a means of expanding their opportunities and their incomes without expecting them, overnight, to eliminate barriers that have been in existence for generations; and that are overwhelming for some women.

This study would indicate that only 32% of mixed women are likely to seek employment in an area in which they have specialized in high school.

If, as now seems apparent, the thrust of the federal regulations are rapidly putting an end to overt discriminatory practices in the recruitment and admission of women into non-traditional training and employment, more women are likely to enroll in non-traditional vocational programs. One can appropriately raise the question as to whether mixed vocational training will be needed as an alternative to traditional training. Although there are more mixed courses than traditional, it still represents only 14% of all vocational training and 21% of all women in secondary vocational education. The expected movement into the non-traditional programs, (see Methodology) seems to be occurring slowly at present, and the assumption that most women will find it difficult both to enter and to remain in non-traditional vocational training still seems to be valid. There are also ample indications that having undertaken non-traditional training many women will still not elect to work in these areas (see Post-High School Plans).

Women are still entering the non-traditional occupations very slowly. If the movement to expand women's occupational choice is to remain a valid and expanding movement, the schools are going to have to accept the fact that the simple removal of barriers is not likely to produce a major shift, that it is unlikely that a large number of women will enter non-traditional training and occupations without major changes in the sex stereotyping that permeates the decision-making of most young women. Clearly, many women have been both discouraged and prevented from such enrollment. As these practices cease many women who are already convinced will move into non-traditional vocational training. As more women enroll, other women will be encouraged to follow their example; the number women in non-traditional training is bound to expand. But for the majority of women, this will still be too great a step, and major changes in sex socialization and sex stereotype patterns will have to occur before segregation of training is likely to be eliminated.

Until that time occurs, for the majority of women, mixed training offers a splendid opportunity to break out of the traditional mold. In most cases, the pay is better than traditional jobs; there are more mixed occupations that offer career opportunities and upward mobility. The jobs have more status and many offer a greater variety of employment. The opportunities offered by by mixed occupations should not downplay the long-range goal of eliminating occupational segregation entirely. However, for the short-range, mixed training does expand women's occupational choices. The first objective of these efforts should be the elimination of training and employment that is predominantly one sex or another and the ghettoization of both sexes into unnecessarily narrow occupational choices. To accomplish this first objective, an expansion of the opportunities for mixed training offers an excellent solution.

III. Persons Influencing Decision-Making

Students in the sample were given a list of several categories of persons who might have influenced them in their choice of occupational training. This list (hereafter called the "influentials") included school personnel who were classified by level of school, title, and sex, and non-school persons who were classified in relation to the student and sex. Each woman was asked to indicate whether each person was very important, somewhat important, or not important in her decision to enroll in her present program.

A. Non-School Influentials

Of all persons listed, adults within the students' immediate family were the most influential. School personnel were mentioned as very influential less than half as often as members of the immediate family. Mothers were mentioned most often by both traditional and non-traditional women, but 47% of the traditional women compared to only 28% of the non-traditional women responded that their mothers were very influential in their decision-making. Fathers were the next most often mentioned, but again they were more influential to traditional students (28%) than to non-traditional students (23%).

Table 2. -- Importance of family and friends in students' selection of training

Persons	Students considering person very important (percent)	
	Non-traditional	Traditional
Mother	28.4	46.5***
Father	22.9	28.2**
Men friends	14.4	9.9*
Women friends	21.4	24.1
Men relatives	11.5	6.9*
Women relatives	9.2	15.7**

For non-traditional and traditional women, women friends were nearly as influential as fathers. Twenty-one percent of the non-traditional and 24% of traditional women felt women friends had been a very important influence in their selection of training. The next most important influence for non-traditional women were men friends (14%) and men relatives (12%) whereas for traditional women, women relatives were next most influential (16%).

1. Mothers Influence

Mothers were the most influential persons on the students' selection of vocational training. However, proportionately they were influential to more than one and a half times the percentage of traditional women as non-traditional women.

A mother's influence was generally related to her education. Proportionately more mothers with some college were influential than mothers with less than a college education.

If we consider mothers who were very influential, we find the higher the level of mothers' education, the higher the percentage of non-traditional students who considered their mothers very influential. This is true for each educational level except for the women whose mothers complete 16 or more years of school.

Traditional students on the other hand considered their mothers less influential the higher the mothers education. Nearly half of the students whose mothers completed a grade school education or less considered their mothers very influential. However, only 44% of the students whose mothers had some college education, and 39% of students whose mothers were college graduates considered their mothers very influential.

The fact that only 29% of non-traditional and 39% of traditional mothers with 16 or more years of school were very influential on their

Table 3. -- Mothers influence, by mothers' education

Years of school mother completed	Students considering mothers very influential (percent)	
	Non-traditional	Traditional
0 - 8	23.8	51.1 ***
9 - 11	25.3	46.5 ***
12	29.2	46.8 ***
13 - 15	36.8	43.9
16 or more	29.1	39.4

daughters may be due to the fact that they did not "encourage" their daughters to enter vocational training. Children of college graduates are encouraged and expected to attend college. The data seem to imply that the more education a mother has, the less willing she is to encourage her daughter to enter any non-professional occupation.

2. Mothers' Occupation

Four occupational groups accounted for three-quarters of the students' mothers: (1) clerical workers; (2) service workers; (3) semi-skilled workers; and (4) housewives. Mothers influential to the largest percentage of non-traditional women were the clerical workers and to the smallest percentage were housewives. For traditional students, however, the most influential group of mothers were the clerical workers and the least influential were the semi-skilled workers.

Table 4. -- Mothers influence, by mothers occupation

Mothers' occupation	Students considering mothers very influential (percent)	
	Non-traditional	Traditional
All mothers	28.0	46.5 ***
Clerical workers	33.1	51.4 ***
Semi-skilled workers	30.6	39.2
Service workers	30.3	49.3 ***
Housewives	25.1	47.0 ***

Mothers, who, in the perception of their daughters, have worked 15 or more years (nearly all the daughters lives) are the most influential. For non-traditional students, the difference between mothers who never worked (26% were influential) and those who worked 15 years or more (30%) were influential is slight. For traditional women the difference is quite large. Forty-two percent of mothers who never worked are influential compared to 52% of mothers who worked 15 years or more. Important also is that mothers of traditional women who have worked less than 5 years and are likely to have started working within their daughters recent memory are also very influential. These mothers are likely to have entered employment similar to the type of job for which their daughters are now training. A similar rise does not occur among non-traditional women.

Table 5. -- Mothers influence, by years mother worked

Years mother worked	Students considering mothers very influential (percent)	
	Non-traditional	Traditional
Never	26.4	42.5[a]***
Less than 5	27.8	51.5***
5 - 9	29.1	45.0***
10 - 14	28.9	42.7***
15 or more	30.4	52.1[a]***

[a]*

3. Fathers' Influence

Fathers' influence on students' selection of training varies with occupation, income and education. In all cases, fathers are proportionately more influential for traditional than non-traditional students. Fathers who were least influential were those who held semi-skilled jobs. Fathers who were most influential held technical jobs and second most influential fathers held professional jobs.

Table 6. -- Fathers' influence, by fathers' occupation

Fathers' occupation	Students considering fathers very influential (percent)	
	Non-traditional	Traditional
All fathers	22.9	28.6
Skilled workers	23.5	28.2
Managers	23.5	29.8
Semi-skilled workers	17.3[a]	23.7[b]
Professionals	28.8	37.5
Technical workers	35.9[a]	40.0[b]

a*, b*

Fathers with 13 - 15 years of school (most likely technical workers) are most influential and those who completed 16 or more years of school are second most influential (most likely professional).

Table 7 . -- Fathers' influence, by fathers' education

Years of school father completed	Students considering fathers very influential (percent)	
	Non-traditional	Traditional
0 - 8	22.2	28.8
9 - 11	21.3	25.4
12	21.8	25.3
13 - 15	29.9	44.4
16 or more	27.6	33.3

(T)**

B. School Personnel Influentials

The percentage of non-traditional women who indicate that school personnel had an important influence on their decision to select their present training is about one-half the percentage of those who mention parents as very influential in their decision. For non-traditional women, the largest group of women named senior high men teachers (15%) as being very influential; for traditional women, the largest group named women senior high teachers (19%).

Although the influence of educational personnel on the students is small, the educational personnel are in a critical position to be able to influence students. It is our position that more information is needed about those educational personnel who have been successfully influential so that we can expand the influence of other personnel.

Table 8. -- Importance of school personnel in students' selection of training

School level and personnel	Students considering person very important (percent)			
	Teachers		Counselors	
	Non-traditional	Traditional	Non-traditional	Traditional
Junior High School				
Men	3.4	2.1	4.7	4.4
Women	3.7	5.2	4.4	4.5
Senior High School				
Men	14.5	9.7*	12.9	14.4
Women	8.1	18.9***	9.5	12.9 *

Since the percentage of school personnel who are very influential is so small, we have analyzed the influence of school personnel by including all personnel whom students consider somewhat as well as very influential, and indicated those students that consider personnel not influential as well.

1. Educational Personnel Who Were Not Influential

A larger percentage of women were not influenced by any teacher, than were not influenced by any counselors. The differential between teacher and counselor non-influence on non-traditional (64% not influenced at all by teachers compared to 54% not influenced by counselors) is greater than that differential of non-influence on traditional women (54% and 50%, respectively). Additionally, proportionately more non-traditional women than traditional women were not influenced by either teachers or counselors. 1/

Table 9. -- Importance of school personnel on students' selection of training

School personnel	Importance of school personnel (percent)			
	Non-traditional		Traditional	
	Some/Very	Not	Some/Very	Not
Teachers	36.4^{a}	63.6	45.7^{***}	54.4
Men	30.6^{b}	69.5	25.2^{f**}	74.8
Women	20.0^{b}	80.0	38.3^{f***}	61.7
Junior high	14.3^{c}	85.7	16.8^{g}	83.2
Senior high	31.3^{c}	68.6	40.7^{g***}	59.3
Counselors	45.7^{a}	54.2	50.4^{*}	49.6
Men	33.5^{d}	66.6	36.8^{h*}	63.9
Women	24.1^{d}	75.9	30.9^{h***}	69.1
Junior high	17.1^{e}	83.0	19.7^{i}	80.3
Senior high	40.0^{e}	60.0	42.9^{i}	57.0

a***, b***, c***, d***, e***,f***, g***, h*, i***

2. Influential Teachers and Counselors

Among those who were influential proportionately more non-traditonal women were influenced by a counselor (46%) than by a teacher (36%), and senior high counselors (40%) were influential to proportionately more non-traditional women than were senior high teachers (31%). For traditional women, however, the difference between the percentage of women influenced by counselors (50%) and by teachers (46%) is not significant, nor is the

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1/ Teachers means any teachers--male, female, junior high or senior high; counselors means any counselor--male, female, junior high or senior high; male teachers means any male teachers--junior high or senior high. Senior high teacher means any senior high teachers--male or female.

difference significant at the senior high school level where 43% of traditional women were influenced by counselors and 41% were influenced by teachers. However, a smaller percentage of non-traditional (36%) women were influenced by teachers.

3. Men and Women Counselors

If men and women counselors are analyzed separately, a further dimension is added. For both non-traditional and traditional students, men counselors were more influential than women counselors. For traditional women, 37% were influenced by men counselors, and 31% by women counselors. For non-traditional women, 34% were influenced by men counselors and 24% by women counselors. These data also indicate that the differential influence between men and women counselors is greater among non-traditional than among traditional women and also that women counselors are significantly less influential for non-traditional women (24%) than for traditional women (31%).

4. Men and Women Teachers

Among teachers, men are more influential for non-traditional students and women are more influential for traditional students. Men teachers influenced 31% of non-traditional students, and women teachers influenced only 20%. Among traditionals, women teachers were influential for 38% of the students and men teachers for 25% of the students.

Since men teach non-traditional vocational courses, most of the non-traditional women learn from male vocational education teachers. The reverse is true for traditional students since women constitute a majority of their vocational teachers.

It was noted above, that teachers were less influential for non-traditional students compared to traditional students. This appears at first to be due to the lack of influence by women teachers for non-traditional students. Men teachers influence 25% of traditional students and 31% of non-traditional students, a difference of only six percentage points. Women teachers, however, influence 38% of traditional students compared to only 20% of non-traditional students. Although this lack of influence by women teachers surely adds to the lack of influence of all teachers, it cannot be said that this factor is due specifically to women teachers. If the most and least influential teachers are compared in each student group, it becomes clear that teachers are simply not as influential on non-traditional students as they are on traditional students. If the most influential teachers are compared: 38% of traditional women are influenced by women teachers, but only 31% of non-traditional women are influenced by men teachers. If the least influential teachers are compared: men teachers influence 25% of traditional students and women teachers influence only 20% of non-traditional students. In both cases, non-traditional students are less influenced by their teachers than traditional students. Proportionately fewer non-traditional students are influenced by all teachers as a group.

Table 10.-- Influence of school personnel, by students' race

School personnel	Students responding personnel were influential (percent)			
	Non-traditional		Traditional	
	White	Black	White	Black
Senior High Teachers				
Men	27.6	32.0	20.5	28.3
Women	16.0 [a]	30.7[a]	34.1	45.0
Senior High Counselors				
Men	31.3	33.3	30.6	30.1
Women	20.8	21.3[c]	25.3 [b]	46.7[b,c]

a***, b***, c**

5. Race

The pattern of teacher/counselor influence for Black students is somewhat different. For White students, men counselors were more influential than women counselors for non-traditional and traditional students. For Black students, this is true for non-traditional, but not for traditional students. Forty-seven percent of Black traditional students were influenced by women senior high school counselors compared to only 30% who were influenced by men senior high counselors.

For White students, men teachers were more influential than women teachers among non-traditional students, and women teachers were more influential than men teachers among traditional students. Again, the response of the Black students is somewhat different. An equal percentage of non-traditional Black students were influenced by men (32%) and women teachers (31%). As is true for White students, women teachers (45%) were influential to a larger percentage of Black traditional students than were men teachers (28%).

An additional difference in the sample of Black students is that a much higher percentage of traditional Black students are influenced by women teachers and counselors than is true for White traditional students. A larger percentage of Black non-traditional students are influenced by women counselors than are White traditional students. It would appear that two influences are at work. The South has more women teachers than the remainder of the country and the Black sample is larger than would be representative of both the metro and non-metro South. In addition, it is possible that a greater insecurity among Black women may make it even more difficult for Black women to adjust to men vocational education teachers. One should note that Black non-traditional women have more difficulty with teachers than do White students (see Chapters on Problems and Difficulties, Post-high School Plans, and Executive Summary).

6. Analysis of the Teachers Who are Influential

Students were asked to specify the subjects taught by teachers whom they had indicated were influential. The students had the opportunity to specify more than one teacher at the same school level and of the same sex. Thus, it was possible for them to mention two male senior high vocational education teachers or two female senior high academic teachers, etc. The following analysis is based on the total number of teachers mentioned, not on the percent of students who responded as in our previous analysis.

Thirteen percent more teachers were named by traditional women as influential than were named by non-traditional women. Forty-two percent of all teachers non-traditional women found influential were teaching vocational education, 47% were teaching academic subjects. Fifty percent of the teachers of traditional students who were influential were vocational teachers, and 45% were academic.

Table 11. - Influence of teachers in all subject areas, by sex

Sex	All teachers mentioned by students as influential (percent)	
	Non-traditional	Traditional
Men	59.6	39.4***
Women	40.3	59.1

Of the academic teachers, 54% of those who influenced non-traditional, and 50% of those who influenced traditional women were women.

Table 12. -- Vocational and academic teachers mentioned by students as influential

Teaching area	Influential teachers					
	Mentioned by non-traditional students			Mentioned by traditional students		
	Total	Men	Women	Total	Men	Women
Total	n=595	n=355	n=240	n=670	n=264	n=396
Vocational (percent)	42.4	54.4	24.6	50.3	38.6	59.3
Academic (percent)	47.4	36.6	63.3	44.5	54.9	36.1
Other a/ (percent)	10.3	9.0	12.1	5.2	6.4	4.5
	(Nt)***			(T)***		

a/ Other teachers include those teaching physical education, art, and career education.

If the academic teachers are examined separately, the math and science teachers are predominantly men, but a larger percentage of men are mentioned by traditional women (76%) than non-traditional women (63%), and a somewhat higher percentage of women other academic teachers (64%) are selected by non-traditional women, than by traditional women (59%).

Table 13. -- Sex of math/science and other academic teachers mentioned, by students

Teaching area	Teachers other than vocational			
	Mentioned by non-traditional students (percent)		Mentioned by traditional students (percent)	
	Men	Women	Men	Women
Math/science	62.6	37.4	76.0***	24.0
Other academic	36.0	64.0	41.3	58.7

If one makes the assumption that for some women, the sex of the influential is critical, it is interesting that the most likely place for a traditional woman to find an influential man, would be among her math and science teachers. The most likely place for a non-traditional woman to find a woman would be among other academic teachers, and this seems to be what occurs.

Of all vocational education teachers mentioned by non-traditional women, 77% are men, whereas 70% of the vocational education teachers mentioned by traditional students were women teachers. Thus, the major difference by sex is due to the vocational teacher. The fact that non-traditional vo-

Table 14. -- Sex of influential teachers, by teaching area

Teaching area	All teachers mentioned as influential			
	Mentioned by non-traditional students (percent)		Mentioned by traditional students (percent)	
	Men	Women	Men	Women
Vocational education	76.6	23.4	30.3***	69.7
Academic and other	47.2	52.8	50.2	49.8

cational teachers are almost entirely men, and traditional vocational teachers are predominantly women accounts for the fact that men teachers influence non-traditional women, and women teachers influence traditional women. It is noteworthy that approximately half of all teachers other than vocational education teachers, teaching traditional and non-traditional students are women, indicating that influential teachers other than vocational teachers, are almost evenly distributed between men and women for both non-traditional and traditional women. At the secondary level, whether an influential teacher is a man or woman seems to revolve mainly on their position as a teacher, not on their sex.

7. Junior High School

Neither junior high school teachers or counselors were apparently influential to non-traditional or traditional women. Less than 20% of the women in each category indicated the junior high personnel were even somewhat influential in their selecting their choice of study.

Table 15. -- Importance of junior high school personnel on students' selection of training

Personnel	Students responding personnel were influential (percent)	
	Non-traditional	Traditional
Counselors		
Junior high men	13.7[a]	15.1[c]
Junior high women	10.3[b]	12.1[d]
Senior high men	31.0[a]	31.3[c]
Senior high women	21.2[b]	27.3[d**]
Teachers		
Junior high men	10.5[e]	9.4[g]
Junior high women	9.3[f]	14.3[h**]
Senior high men	27.8[e]	21.8[g**]
Senior high women	17.3[f]	35.4[h***]

a***, b***, c***, d***, e***, f***, g***, h***

There are few differences in the influence of junior high counselors for each of the groups (non-traditional or traditional) and unlike senior high school counselors, the men junior high counselors are only slightly more influential than women junior high counselors.

However, analysis of junior high teachers mentioned by students listing their teachers field, indicates that they are more important than they first appeared. An analysis will indicate that the absence of junior high school teachers is due largely to the absence of influential vocational teachers at the junior high school level.

About one-quarter of all traditional women and one-third of all non-traditional women who named teachers as influential named junior high school teachers. However, since junior high school students are unlikely to have vocational education teachers, examination of teachers excluding vocational teachers reveals that 42% of all teachers other than vocational teachers named by traditional and non-traditional students are junior high school teachers. Of these teachers, other than vocational education, 40% of all men teachers and 44% of all women teachers named by non-traditional students are junior high school teachers; 37% of all men and 47% of all women teachers other than vocational education teachers named by traditional students are junior high school teachers.

Thus taking into consideration only the proportion of teachers that could influence students while they are in junior high school, comparatively junior high school teachers are only somewhat less influential than senior high school teachers -- 42% to 58%, for both traditional and non-traditional students. The overall percent of students influenced by junior high personnel is very small, 14% of non-traditional and 17% of traditional, but this only reflects the small percentage of women students who are influenced by any teachers, junior high or senior high.

Table 16. -- Influential junior high school teachers

Teachers	Influential teachers (percent)	
	Mentioned by non-traditional students	Mentioned by traditional students
All teachers		
Junior high	32.1	25.8
Senior high	67.9	74.2
Men teachers		
Junior high	23.9	27.0
Senior High	76.1	73.0
Women teachers		
Junior high	43.1	25.2
Senior high	56.9	74.8
Teachers other than vocational education		
Junior high	42.3	41.7
Senior high	57.7	58.3
Men teachers		
Junior high	40.4	36.6
Senior high	59.6	63.4
Women teachers		
Junior high	44.2	47.2
Senior high	55.8	52.8

IV. Impact of Counseling Methods and Techniques

Women were asked to rate a list of methods and techniques designed to assist students in choosing an occupation and a career. They were also asked to identify those techniques that were available at their school and the ones in which they had participated.

At the same time, educational personnel were asked to rate the usefulness of a similar list of methods and techniques in helping young women to consider non-traditional occupational training. Educational personnel were also asked to indicate how useful these programs were in encouraging women already enrolled in non-traditional training to remain.

In this section, the responses of women students and educators about the various techniques and methods are analyzed.

A. Impact of Counseling on All Students

When asked whether counseling programs were important in their selection of vocational training, proportionately more traditional than non-traditional women responded that counseling programs were very important, but the response of each of the traditional and non-traditional groups ranked the techniques in the same relative order of importance. The techniques considered very important by non-traditional students were career education (42%) followed by career orientation (39%) and job site visits (33%). Individual counseling (29%) ranked fourth among the counseling techniques listed.

Table 17. -- Importance of selected counseling programs on students' selection of training

Counseling program	Students responding very important (percent)	
	Non-traditional	Traditional
Career education	42.1^{a,b}	47.0^{*d,e}
Career orientation	39.4	42.4
Job site visitation	33.3^{b}	39.4^{**e}
Individual counseling	28.9^{a,c}	25.5^{d}
Industry representative	22.1	25.4*
Group counseling --		
Men and women	16.7	11.2***
Women	3.2	7.0***
Vocational testing	14.7^{c}	22.2***

a***, b***, c***, d***, e***

Career education received the highest response from traditional women, (47% said it was very important) followed by career orientation (42%), and job site visits (39%). Only 26% of the traditional women found individual counseling very important to their selection of training.

The program mentioned least often as important by the women is group counseling with groups of women only. Three percent of all non-traditional women and seven percent of all traditional women found this very important in their selection of training.

The greatest difference between non-traditional and traditional women is reflected in how important they felt vocational testing, job site visitations, and group counseling with mixed groups of men and women were to their selection of a vocational program. Twenty-two percent of the traditional and only 15% of non-traditional women found vocational testing very important; 39% of the traditional compared to 33% of non-traditional women found job site visits important. Mixed group counseling is the only program which received a significantly higher response from non-traditional women than from traditional women. The overwhelming factor reflected by the data is, however, that three programs (career education, career orientation, and job site visitation) were making far more important contributions in assisting students, both traditional and non-traditional, to select their vocational training. This is particularly important in light of the emphasis of schools on individual counseling and vocational testing. It is important further because although these programs are not universally available to students, as is individual counseling, they are so effective with those to whom they are available, that their ultimate impact is to out perform (in the number of students helped) other more available but less effective programs.

The following section discusses the availability of programs as perceived by the students and the impact of those programs on students who had participated.

B. Availability of Programs

The technique available to the largest percentage of non-traditional and traditional women is individual counseling (87%), followed by vocational testing (48%). Career education, career orientation, and industry representative visits are available to about 40% of the women. Thirty-one percent of traditional and 34% of non-traditional women mentioned job site visits as available, and 11% of all students said group counseling with women only was available (see Table 18).

The one large discrepancy in the data between non-traditional and traditional women occurs in their response to group counseling with men and women. Thirty-five percent of the non-traditional women said it was available, but only 20% of the traditional women said it was available. If schools have been offering counseling programs organized around vocational courses, and women have just begun to enter non-traditional programs, these women would be entering counseling programs composed mostly of men. Such a program would be perceived by non-traditional women as a mixed group. Traditional women in the same school might participate in similar programs but see them as groups of women only, unless men had begun to enter the traditional classes.

We would assume from these data that individual counseling and vocational testing are most often used and promoted in the schools, since they are most widely known by vocational students to be available.

C. Participation of Students

Data comparing availability and participation in counseling programs indicate that either traditional women are not aware of counseling programs unless they participate in them, or that non-traditional women are discouraged from participation. In several instances, the participation data are exactly the same as the availability data, indicating that only those persons who participated in the program were aware of its existence. This is true for traditional women participating in group counseling with men and women, industry representative visits, career education, and career orientation. For non-traditional women in all cases except job site visits, proportionately fewer women (3 to 6 percentage points) mentioned that they had participated than mentioned that the program was available. This is not a statistically significant difference, but it is significant that the non-traditional women mention participation less often than they mention availability. There is no logical explanation for this except that either non-traditional women are being discouraged from participating in certain counseling programs, or that traditional women are more likely to take advantage of every opportunity to consider a variety of career options.

Table 18. — Students' perception of the availability of counseling programs and students' participation

Counseling program	Students responding (percent)			
	Non-traditional		Traditional	
	Availability	Participation	Availability	Participation
Individual counseling	87.1	71.0	87.1	69.4
Vocational testing	47.6	42.5	49.6	44.3
Career orientation	41.5	35.4[b]	41.2	40.2[b]
Industry representative	38.5	34.5[c]	42.4	42.9[c]
Career education	37.7	32.3[d]	40.1	41.8[d]
Group counseling --				
Mixed	35.4[a]	32.3[e]	19.8[a]	19.9[e]
Women only	11.3	8.3	10.7	15.9
Job site visitation	31.2	32.4[f]	34.2	42.4[f]

a***,b*, c***, d***, e***, f***

Individual counseling was mentioned as available by 90% of the students in each group, and 70% said they had participated. Again, this is more evidence of the emphasis and use of this technique by the schools.

There are two instances where a given percentage of women students stated that the counseling program was available at their school, but a larger percentage of women indicated they had participated in such a program. For group counseling with women only, 11% of the traditional women said it was available at their school, but 16% said they had participated. For job site visits, 34% of the traditional women said it was available at their school, and 42% said they had participated in such a program. It is very likely that these activities have been sponsored by non-school groups or agencies, and the women have participated outside the school sponsorship.

D. Influence of Programs on Participants

If the influence of counseling programs on only those who participated is examined, a clearer picture of the relative effectiveness of the programs can be seen.

Two-thirds of the students participating in a career education program found it to be very important to their selection of training. This compares to less than one-third of students participating in individual counseling who thought that technique was very important. No other program received such an overwhelming response from its participants as did career education. 1/

Evaluations of career education materials have suggested that the materials are sex biased in their presentations. 2/ If this were true, we would expect this program to be more useful to traditional than non-traditional women in their selection of training. Our data do not show this is true, although this alone does not deny that there may be bias in the program on the basis of sex. It is perhaps that the career education programs achieve some of their objectives such as self-awareness and the ability to make individually appropriate career decisions that override any effect of bias in career information or exploration provided by career education.

1/ The response is equally positive from mixed women (see Chapter XI).

2/ Harway, M., Astin, H., Suhr, J., and Whiteley, J. Sex Discrimination in Guidance and Counseling, (report prepared for National Center for Educational Statistics by the Higher Education Research Institute, 1976).

The only other programs which make significant impact on their participants are career orientation and job site visits. Each of these was very important to the selection of training of over 48% of the non-traditional and traditional participants. Traditional women indicated that career orientation was nearly as influential as career education. For all other programs less than 40% of the students who participated responded that the programs were very important to their selection of training.

Table 19. -- Influence of counseling techniques on students who participated in counseling programs, by type of program

Counseling programs	Student participants responding counseling was very important	
	Non-traditional	Traditional
Career education	65.4	62.2
Career orientation	54.3	59.2
Job site visitation	47.8	49.0
Individual counseling	33.3	30.1
Industry representative	34.5	36.8
Group counseling --		
Mixed	33.1	18.9***
Women only	7.9	14.7
Vocational testing	21.8	31.8***

Using the student response as a measure of effectiveness of these programs, we would suggest that a combination of the three most influential programs by a school would assist a majority of their students in decision-making.

If the three most influential programs are compared to other less influential programs, the contrast is vivid. The average response (indicating the program was very influential) to all techniques is 38% of non-traditional and traditional participants. However, an average 56% of non-traditional and 57% of traditional students responded to the three most influential programs: career education, career orientation, and job site visitations compared to an average of only 33% of non-traditional and traditional participants who responded to the second three most influential programs: industry representative visit, individual counseling, and group counseling with mixed groups of men and women for non-traditional students, but the former two plus vocational testing for traditional students. This is a difference of more than 20 percentage points.

Table 20. -- Comparative influence of various counseling techniques

Counseling programs	Student participants responding counseling programs were very influential (average percent)		
	Non-traditional	Mixed	Traditional
All techniques	37.6	40.3	37.8
Three most influential 1/	55.8	59.5	56.8
Three less influential 2/	32.9	32.8	32.9
Two least influential 3/	14.9	22.8	16.8

1/ The three most influential programs were career education, career orientation, and job site visitations.

2/ The three less influential programs were industry representative visits, individual counseling, and group counseling with men and women for non-traditional students, but the former two plus vocational testing for traditional students.

3/ The two least influential are group counseling with groups of men and women, and vocational testing for non-traditionals; group counseling with mixed groups of men and women and group counseling with groups of women only for traditional students.

This difference has some serious programmatic implications. These data draw attention to the need to reconsider the allocation of guidance funds and personnel time which emphasize individual counseling and vocational testing if these techniques are not helping students to make appropriate career decisions. The results of the lack of effectiveness of the most widely used counseling techniques can be seen in the increasing number of women, and presumably men, career changers who return to school later in their adult life when they finally make a satisfactory career decision. Any effort on the schools' part to assist students in a smooth transition from school to work is also limited by such provision of services.

E. Programs For and Against Non-traditionals

There are two programs in which there is a significant difference in the response of non-traditional and traditional participants which may indicate a bias in the program which encourages and supports women entering traditional training. In the case of vocational testing, 32% of traditional participants compared to 22% of non-traditional participants found it very important to their selection of training. The presence of sex bias in vocational testing has been well documented, and this large difference could be due to bias in the tests or the administration of the tests. 1/

The second program, in which there is a significant difference is group counseling with mixed groups of men and women. Thirty-one percent of the non-traditional women compared to 19% of the traditional women found mixed group counseling to be very important to their selection of training. This may be due to the nature of the group process. According to Kelley and Thibaut, "When the problem being worked on is a shared problem, the group members can serve as models and reinforce each other, thus tending to facilitate the problem-solving process." 2/ The non-traditional women who find this technique important would appear to be sharing the process of selecting a non-traditional career with men students. Since traditional women do not respond nearly as well to the technique, it would imply a probable sex bias in group counseling--if the male work roles are emphasized in counseling mixed groups of men and women, it is unlikely that the traditional women would find this technique useful in making a career decision.

F. Minority Women 3/

Analysis of assessments of career decision-making techniques and programs by race and ethnicity indicates that Black women are more responsive than White women to all techniques except career education and career orientation. The same percentage of traditional Black and White women indicated

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1/ See Diamond, Esther. "Sex Bias in Career Interest Inventories." (National Institute for Education, 1975.)

2/ Kelley, H. and Thibaut, J.,"Group Problem Solving," in G. Lindzey and E. Aronson (eds.) The Handbook of Social Psychology, Volume 4, (Addison-Wesley, Cambridge, Mass.,1969).

3/ The remaining analysis in this chapter is based on the impact of counseling programs on all students regardless of availability or participation by students. We have attempted to incorporate what has been said about availability in the data interpretation.

that these two programs are influential, but proportionately fewer non-traditional Black than White women found them influential. One explanation for this might be the lack of availability of these programs to Blacks, particularly in the non-metropolican South from which many of the sample of non-traditional Black students is drawn. 1/ Other analysis has shown little availability of career education in southern non-metropolitan schools which have predominantly Black students.

Further, the greater emphasis by Blacks on programs such as individual counseling and vocational testing which are known to be more widely used reinforce this suggestion.

Table 21. -- Importance of counseling programs for students, by race

Counseling program	Students responding program was very influential (percent)			
	Non-traditional		Traditional	
	White	Black	White	Black
Career education	42.4	35.4	46.9	43.8
Career orientation	39.6	35.4	42.2	43.8
Job site visitation	31.7 [a]	50.0 [a]	40.3 [e]	34.4 [e]
Individual counseling	28.1 [b]	36.3 [b]	25.0 [f]	35.9 [f]
Industry representative	20.6	37.5	24.8	32.8
Group counseling--				
Mixed	15.4 [c]	32.5 [c]	9.9 [g]	20.3 [g]
Women	3.2	5.0	6.7	4.7
Vocational testing	14.9 [d]	22.8 [d]	21.1 [h]	31.3 [h]

a**, b*, c***, d*, e*, f**, g***, h*

G. Metro and Non-metro Response

There is very little difference in the response to counseling programs between the metro and non-metro students. The one interesting variation is individual counseling. Thirty-one percent of metro non-traditional and only 24% of metro traditional students felt individual counseling was very important to their selection of training. This higher response among non-traditional students in the metro areas may be a result of the special

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1/ A previous study of women in postsecondary vocational education which had a larger sample of Black students from metropolitan areas indicated that career education and career orientation were relatively more influential for Blacks than for Whites.

counseling programs for women to encourage them to consider non-traditional occupations. In the rural or non-metropolitan areas, this information is not as frequently transmitted, nor are special counseling programs as readily available.

Table 22. — Importance of counseling programs, by students metropolitan and non-metropolitan residence

Counseling program	Students responding program was very influential (percent)			
	Non-traditional		Traditional	
	Metro	Non-metro	Metro	Non-metro
Career education	43.5	40.0	45.7	48.1
Career orientation	36.2	41.5	40.8	43.9
Job site visitation	32.8	34.2	40.2	38.6
Individual counseling	30.7 [c]	26.1	23.8 [a,c]	27.1 [a]
Industry representative	23.3	20.2	28.7 [b]	22.3 [b]
Group counseling--				
Mixed	16.4	17.2	10.9	11.5
Women only	3.4	2.9	6.9	7.2
Vocational testing	15.5	16.0	23.8	20.6

a**, b*, c**

H. Educational Personnel Response to Career Decision-Making Programs

Proportionately more educational personnel were optimistic about the usefulness of programs to assist students with their career decision-making than were the non-traditional women students. For each of the techniques they were asked to rate, 25% or more of the non-traditional students claimed the technique had not been useful to them in their decision-making. Their responses ranged from 27% who felt career education was not useful to 77% who felt group counseling with women only was not useful.

On the other hand, almost all educators who were surveyed felt that all the techniques were at least somewhat useful.

Table 23. -- Perceptions of importance of counseling methods and career information programs in assisting student selection of non-traditional training

Counseling program	Persons responding program was NOT important (percent)	
	Students	Educational Personnel
Individual counseling	34.4	0.0
Job site visitation	32.3	1.6
Career education	27.2	2.4
Career orientation	27.7	3.8
Group counseling--		
Mixed	52.2	5.3
Women	77.4	5.3
Industrial representative	41.5	3.9
Vocational testing	47.2	12.5

In light of the response from non-traditional students, it appears that educational personnel overrate the effectiveness of the following techniques: individual counseling (29% of the students and 69% of the educational personnel found it very important); group counseling, particularly groups of women, and job site visits and industry representative visits. For each of these, more than twice as many educational personnel considered the technique very important for selection of training than did non-traditional students. This can be compared to percentages reported for career education, career orientation, and vocational testing where approxi-

Table 24. -- Educational personnel perception of importance of counseling programs for students

Counseling program	Persons responding program is very important to students' selection of training (percent)			
	Non-traditional students	Educational personnel		
		Total	Counselors	Teachers and Others
Individual counseling	28.9	68.8	71.7	66.7
Group counseling--				
Men and women	16.7	33.3	34.0	32.9
Women only	3.2	35.6	43.9	30.2
Vocational testing	15.7	22.1	20.0	23.6
Job site visitation	33.3	68.8	67.9	69.3
Industry representative	22.1	51.2	56.6	47.4
Career education	42.1	48.9	46.2	50.7
Career orientation	39.4	44.7	42.9	46.1

mately the same number of educational personnel as students considered it very important. Vocational testing, in spite of its widespread use, received the least amount of support from the educational personnel.

If educational personnel did not think a technique was "very important" to a majority of students, it would be expected that they would respond that the technique was "somewhat important." The result should be that if educational personnel knew which programs were most effective, their responses would be closer to those of the students. However, the educational personnel agree most often to the importance of three techniques: job site visits, individual counseling, and industry representative visits. These rank third, fourth, and fifth among students.

1. Supportive Programs

Three-quarters of all educational personnel stated that there is a need for specific programs to support women in non-traditional training. Eighty percent of the counselors and 72% of the teachers and other personnel consider such programs important. More women educators (87%) than men educators (70%) viewed support as necessary.

The counseling program most agreed upon to support women in non-traditional training is individual counseling. Counselors supported this method (88%) even more strongly than teachers and other personnel (73%). Approxi-

Table 25. -- Educational personnel's perception of importance of counseling programs to support women in non-traditional training

Counseling program	Persons responding program is very important to support women in non-traditional training (percent)		
	Total	Counselors	Teachers and other educational personnel
Individual counseling	71.2	88.0	72.7
Group counseling--			
Men and women	30.9	35.0	28.1
Women only	31.6	37.9	28.0
Counseling with potential employers	62.3	57.1	65.6
Securing parental support	66.4	68.1	65.1
Talking with women who have "made it" in non-traditional jobs	67.0	76.2	68.8

mately two-thirds of all educational personnel consider talking with women who have successful "made it," securing parental support, and counseling with potential employees, very important programs for support. Less than one-third considered group counseling very important.

2. Programs and Materials Utilized by Educational Personnel

Educational personnel were asked whether their school operated a program to encourage women to enter non-traditional training; whether they use prepackaged guidance materials dealing with sex stereotypes and/or sex bias; whether there was a need in their school for in-service training for teachers and counselors to help them assist women to consider non-traditional training; what outside assistance or resource materials they think would be helpful in this programming; and what materials or programs need to be developed and made available to personnel.

Fifty-six percent of the educational personnel indicated that their school operated a program designed to encourage young women to consider training for other than a traditional occupation.

The majority of the educational personnel respondents indicated that their schools do not use prepackaged guidance materials dealing with sex stereotyping and/or sex bias. Only 16% indicated that materials were used. Of those who used such materials, 60% said they were useful. Only 39% indicated they would use such materials even if funds were available.

More than half (52%) of the educational personnel felt that in-service training programs were needed to assist school personnel to encourage young women to enter non-traditional training. Fifty-nine percent felt such programs were needed by teachers, 48% were in favor of such programs for counselors.

Few responded to the question, "if funds were available, what outside assistance would you use?" Of those who did respond, almost all responded "none."

When asked what materials or resources should be developed, their heaviest emphasis was on the utilization of successful women employed in non-traditional areas as guest speakers and on job site visitations. The emphasis was also on films, brochures for women to provide information on earnings and job opportunities, and pamphlets for industry on the advantages of hiring trained women. Other ideas included in-service training for shop teachers, workshops for students, for staff, and for counselors; and an emphasis on teaching counselors that all students should not go to college. Audio visual tapes and cassettes and materials designed to change basic attitudes of women were favored by many educational personnel. Many felt that they did not know enough to recommend materials.

If the specific programs that were suggested became available, 78% said they would use them.

I. Summary

There are several very important issues which have implications for guidance and counseling that have surfaced from these data. First, individual counseling which is most common and the technique most relied upon by the schools and the educational personnel, is impacting the career decision-making of less than one-third of the women students. It is important to proportionately fewer women than any other methods of counseling except group counseling and vocational testing; and vocational testing is the technique offered most frequently after individual counseling. Although the data indicate that it is more influential on traditional than non-traditional women, even for traditional participants it is effective with only half as many participants as career education.

Career education, on the other hand, is very important to nearly two-thirds of all students who participate in such a program. It is as effective for the non-traditional as for the traditional women. In spite of the fact that career education is available to less than half the students in the sample, and individual counseling is available to nearly 90% of the students, career education influenced 136% more non-traditional students and 167% more traditional students than individual counseling.

There are indications in the availability and participation data that either traditional women are being encouraged to participate in these programs or that the emphasis is so much on traditional occupations that these programs are more attractive to the traditional rather than the non-traditional women. Further, if we compare the top four most influential methods against the other four methods, we find that Group 1 appears to be programs which offer information about careers, and in the case of career education and job site visits, offer a certain amount of "real experience." Group 2 on the other hand, seems to emphasize discussion relating to occupations in the abstract. The results of the latter group of programs rely much more heavily on the counselors' skills as well as their perceptions about sex roles than does the first group. The first group relies more on the student's reaction to their own direct or indirect experience relating to tasks, work environments, education and skill requirements.

GROUP 1	GROUP 2
Career Education	Individual Counseling
Career Orientation	Vocational Testing
Job Site Visitation	Group Counseling Men and Women
Industry Representative Visit	Group Counseling Women Only

This is not to say that the methods in Group 2 are useless, for apparently individual counseling is providing useful assistance to some students. Group counseling with men and women is considerably more important for non-traditional than traditional women. Perhaps because in these groups women not only receive the same information as men, but the men also serve as role models in helping to make decisions about non-traditional occupations.

Group counseling with only women appears to be successful with non-traditional women in very specific situations. From other studies 1/ we

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1/ Rj Associates, Inc., Factors Influencing the Participation of Women in Non-traditional Occupations in Postsecondary Area Vocational Training Schools, 1976, and Problems of Women in Apprenticeship, 1977.

know that women who are already employed in a non-traditional job or enrolled in non-traditional training tend to find a great deal of support in groups of women who are participating in similar non-traditional jobs or training. Here they can exchange similar problems they are having with their work, their new roles, and their fellow workers. Similarly, non-traditional women respond well to vocational education teachers (see Influentials). Once involved, women are likely to seek out persons with substantial information who are capable of discussing their opportunities for employment with them. Properly conducted, group counseling should have proven more useful, but at this time we can only speculate on why it was not.

Educational policy, particularly the amount of time and money which ought to be spent on specific counseling techniques should be based on some rational evaluation of the impact each of the techniques is having on students. The data here indicate that several very popular techniques are not influencing the decisions of vocational education students to an extent which would justify their widespread use (or cost). However, since vocational education students are less than half of all students, a further investigation into the impact on academic and general education students is warranted. If the results are similar and other sources 1/ indicate that they are, then new policy ought to be made in accordance with the findings, and counselors' roles or approaches should be reconsidered in light of the overwhelming evidence.

1/ Harway, M., Astin, H., Suhr, J., and Whiteley, J. Sex Discrimination in Guidance and Counseling, (report prepared for National Center for Educational Statistics by the Higher Education Research Institute, 1976; and Farmer, H. and Backer,T., New Career Options for Women: A Counselors Sourcebook (Human Sciences Press, New York, 1977).

V. Motivational Factors

To find out what the motivating factors were that had attracted them to their areas of vocational training, the women in the sample were asked to rate the following list of factors as very important, somewhat important, or not important in their selection of their present areas of vocational training:

- have interest in the area;
- have ability in the area;
- attraction of working conditions (steady work, many available jobs, opportunity for advancement, etc.);
- likely to earn good income;
- other.

The educational personnel who were surveyed were given a similar list and asked to indicate what they perceived to be the important factors motivating young women entering non-traditional training. 1/

The women indicated that interest in the area was the single most important factor that motivated them to select a particular area of occupational training. Seventy-eight percent of the traditional students and 74% of the non-traditional students indicated that this factor was very important in their selection of occupational programs.

The motivating factor that was very important to the second largest percentage of women is ability in the area of training. Fifty-one percent of the non-traditional and 59% of the traditional women considered their ability very important to their selection of training.

1/ The educators were also asked to rate the relative importance of "enjoys working with men." All groups of educational personnel agreed that this was not a critical factor for women selecting non-traditional training. This is an important finding since that factor is very commonly considered a major motivation for women to choose non-traditional occupations.

For traditional women working conditions was important to the next largest group (52%) and earnings was important to the smallest group (44%). For non-traditional women, earnings and working conditions were important to the same percentage of women (42%).

Table 26. -- Importance of motivating factors to students selection of training

Motivation	Students responding motivation was very important (percent)	
	Non-traditional	Traditional
Interest	73.5	77.6*
Ability	50.9	59.1***
Working conditions	41.6	51.6***
Earnings	41.9	44.2

The perceptions of educational personnel about what motivated non-traditional women to select their training were very similar to those of the students. Eighty-three percent of the counselors and 90% of the teachers considered interest or ability to be a very important motivating factor. This is almost exactly what non-traditional students maintained. Two-thirds of the counselors and 61% of the teachers thought that earnings was very important, and an equal percentage thought working conditions was a very important influence on students' selection of training. The accurate perception of the relative importance of interest and ability is significant,

Table 27. -- Educational personnel's perception of importance of motivating factors on students' selection of training

Motivating factor	Persons responding motivation was very important to students selection of training (percent)			
	Non-traditional students	All Educational personnel	Counselors	Teachers and others
Interest or Ability 1/	81.6	87.5	83.3	90.1
Earnings	41.9	63.1	66.7	60.5
Working conditions	41.6	65.2	66.7	64.2

1/ Educational personnel were asked about Interest and Ability jointly.

but it is also significant that a much larger percentage of teachers and counselors believe that earnings are more influential than students perceive them to be.

A. Masculine/Neutral

Among non-traditional women in masculine and neutral image training programs, the four motivating factors have the same relative importance as for the total sample of non-traditionals. Earnings and working conditions have nearly equal importance, but were both more important to neutral women (44%) than they were to masculine women (36% and 38%).

Table 28. -- Importance of motivating factors for students in masculine and neutral non-traditional training

Motivation	Students responding motivation was very important (percent)	
	Masculine	Neutral
Earnings	35.7	45.5***
Working conditions	37.8	44.3*
Ability	45.6	53.1*
Interest	76.7	71.7

Interest was important to more women enrolled in masculine training whereas all other motivations had greater impact on neutral women. Nonetheless, for both groups, interest was far and away the most important factor, with 77% of masculine and 72% of the neutral women indicating it was very important.

B. Racial/Ethnic Groups

When separated by racial groups, proportionately more Blacks than Whites indicated that earnings and working conditions were important, whereas interest was important to proportionately fewer Blacks.

Among non-traditional Blacks, 58% said earnings was important, 52% indicated interest and 51% indicated working conditions were very important.

Only 45% found ability to be important to their selection of training. Among traditional Black women, interest (63%) and working conditions (61%) were mentioned as important by the largest percentage of women; and ability and earnings (56%) are mentioned least. However, in each case, significantly more Whites emphasize interest and significantly more Blacks emphasize earnings and working conditions.

Table 29. — Importance of motivating factors on students' selection of training, by race

Motivation and race	Students responding motivation was very important (percent)	
	Non-traditional	Traditional
Ability		
White	51.5	60.3
Black	44.6	56.3
Interest		
White	75.5^{a}	79.2^{b}
Black	51.8^{a}	62.5^{b}
Earnings		
White	39.8^{c}	42.7^{d}
Black	57.8^{c}	56.3^{d}
Working conditions		
White	40.8	50.5
Black	51.2	60.9

a***, b**, c***, d*

These data indicate that the one group which is entering non-traditional training because of the earnings potential is the Black women. (See motivations for entering "Mixed" vocational training.) It is significant that earnings are as important to non-traditional Black women as to traditional Black women. In the case of every other motivation--interest, ability, working conditions--proportionately more traditional than non-traditional Black women find them very important. For the non-traditional Black women, earnings is the motivating factor having the highest percentage of students indicating its importance. This is not so for traditional students, where interest is considered as important as than earnings.

C. Metropolican/Non-Metropolitan Differences

There are some small differences in motivation among metro and non-metro students. Among non-traditional women, although a similar percentage of students consider interest important, non-metro students consider ability (47%) and earnings (39%) important proportionately less often than do their metro counterparts (54% and 44%).

Table 30. -- Importance of motivating factors for metro and non-metro students

Motivation and locality	Students responding motivation was very important (percent)	
	Non-traditional	Traditional
Earnings		
Metro	44.1	41.3
Non-metro	38.5[a]	47.1[a]
Interest		
Metro	73.6	77.6
Non-metro	73.4	77.7
Ability		
Metro	53.5[b,d]	59.3[b]
Non-metro	46.7[c,d]	59.0[c]

a**, b*, c***, d*

The opposite is true for traditional women. Non-metro traditional (47%) women find earnings very important compared to 41% metro women to their selection of training, but both metro and non-metro women respond similarly to ability.

The emphasis on earnings among non-metro traditional women may be a reflection of the higher incidence of poverty in the non-metro area. Some non-traditional women in non-metro areas are entering agricultural occupations which are not expected to produce high earnings. The fact that more non-metro traditional women place higher emphasis on earnings may be that they think they will "earn more as a secretary in non-metro areas than they will in activities related to agriculture."

D. Interest Influence

1. Future Plans

Among each of the sample groups, interest influence is related to the students' future plans. Proportionately more women who plan to enroll in postsecondary vocational education indicated interest was a very important influence on their selection of training than women who plan to work after graduation.

Of those who were planning to enroll in a postsecondary vocational program, non-traditional women who were planning to enroll in a course similar to their high school training had the largest percentage of women who indicated interest was a very important motivating factor. Eighty-eight percent of non-traditional women entering agricultural, technical or trade and industrial programs compared to 62% of women entering all other programs at the postsecondary level were motivated by interest. Among women who plan to seek a job after graduation, the group most often indicating interest as an important motivating factor were the students who planned to enter a job that was related to their high school training; 84% of non-traditional women seeking a non-traditional job; and 79% of traditional women seeking a traditional job.

Table 31. -- Importance of ability and interest on students' selection of training, by students' post-high school plans

Motivation and post-high school plans	Students responding motivation was very important (percent)	
	Non-traditional	Traditional
Ability		
To work	53.9	61.4*
Academic program	53.1	75.2***
Vocational program	56.0	64.2*
Other plans	49.6	46.2
Interest		
To work	74.9	78.0
Academic program	78.5	93.6***
Vocational program	84.5	85.8
Other plans	70.9	62.8

2. Fathers Occupations

Interest as a motivation for selecting training is related to fathers' occupations. Proportionately more non-traditional women whose fathers are managers indicate interest and ability were very important motivations compared to women whose fathers are skilled or semi-skilled. Proportionately fewer managers were very influential on their daughters than were professional or technical fathers; yet these managers apparently transmitted to their daughters a strong desire to do what they like best. This relationship is not true for traditional women.

3. Income

Women with higher household incomes are more likely to be affected by interest. This is particularly true of non-traditional women (79%). To a lesser extent this is also true of traditional women, where high income is also closely related to ability. More low income women, particularly traditional women, are influenced by earnings.

Table 32. -- Importance of motivating factors on students' selection of training, by students' household income

Motivation and household income	Students responding motivation was very important (percent)	
	Non-traditional	Traditional
Earnings		
$0 - $10,000	41.8	52.5[a]**
$10,001 and above	37.7	43.3[a]
Working Conditions		
$0 - $10,000	40.2	52.0**
$10,001 and above	38.6	53.9***
Interest		
$0 - $10,000	68.2	73.4
$10,001 and above	78.8	78.2
Ability		
$0 - $10,000	48.8	52.2[c]
$10,001 and above	50.5	65.1[c]***

a*, b**, c***

E. Ability Influence

There is little variance in students' perception of the importance of ability as a motivating factor. The largest percentage of students who responded this was very important were traditional students with plans to enter a postsecondary academic program (75%), and traditional students whose household income is over $10,000 (65%) (see Tables 31 and 32).

For non-traditional women, the number of years of math is not related to ability as an influence; however, the number of years of science is--the more science a non-traditional woman has, the more likely ability will be a motivating factor for her.

F. Earnings Influence

It has been stated previously that earnings was a more important motivation for Blacks than Whites and somewhat more important to non-metro than metro traditional women.

1. Post-High School Plans

The influence of earnings is somewhat different for women with differing post high school plans.

For non-traditional women 51% of women going to a postsecondary vocational programs and 46% of women planning to work felt earnings were very important, however, only 40% of women going on to postsecondary academic programs considered it important. For traditional women proportionately more students planning to work (52%) after high school felt earnings were important than did students planning to enter a vocational program (45%) or a postsecondary academic program (48%).

Table 33. -- Importance of earnings and working conditions on students' selection of training, by students' post-high school plans

Motivation and post-high school plans	Students responding motivation was very important (percent)	
	Non-traditional	Traditional
Earnings		
To work	45.9	52.1
Academic program	39.9	47.7
Vocational program	51.2	45.1
Other plans	33.1	48.7 **
Working Conditions		
To work	43.5	59.1 ***
Academic program	42.2	46.0
Vocational program	47.0	55.6
Other plans	35.0	37.2

It is important to note that earnings does not seem to be primary motivating factor for non-traditional women. The largest percentage of those entering a postsecondary vocational program who think earnings is very important also place the most emphasis on interest as a motivating factor. Therefore, we must again state that the attempt to attract women into non-traditional training by emphasizing earnings has not been successful. Once the interest is established these women may be motivated by earnings to continue their training at a postsecondary vocational school.

VI. Years of Math or Science Completed

There are comparatively few differences in the number of years of math or science taken by non-traditional women compared to traditional women. The surprising factor that emerges from the data is the large number of years of math taken by all women. There is a marked difference between the number of years 1/ of math taken compared to the number of years of science taken. Both groups of women take proportionately more math than science.

Table 34. — Years of math and science completed

Years completed	Students completing courses			
	Math		Science	
	Non-traditional	Traditional	Non-traditional	Traditional
Less than 1	9.2	10.9	11.3	11.6
Less than 2	31.3	27.4	42.0	37.7
Less than 3	36.5	36.1	30.0	33.6
3 or more	22.9	25.5	16.8	17.2

Sci (Nt-T)*

A. Place of Residence

There is little difference in the amount of math taken by traditional and non-traditional women in the same metro or non-metro place of

Table 35. -- Years of math and science completed, by metro and non-metro students

Years completed	Students completing courses							
	Math				Science			
	Non-traditional		Traditional		Non-traditional		Traditional	
	metro	non-metro	metro	non-metro	metro	non-metro	metro	non-metro
Less than 1	11.8	5.6	18.5	3.9	13.4	8.1	16.7	6.9
Less than 2	32.5	29.4	26.4	28.4	43.0	40.6	38.1	37.3
2 or more	55.7	64.9	55.1	67.7	43.5	51.3	35.2	55.9

Math/(Nt)**, (T)**, Sci/(Nt)**, (T)***, Metro(Nt-T)**

1/ Students were asked how many semesters (or quarters) of math and science they had completed. These were then coded to equal years; less than two years is equal to twoto three semester courses; less than one year is equal to one semester or its equivalent.

residence. For both non-traditional and traditional students, women living in non-metro areas take the most math. Approximately two-thirds of all non-metro women took two or more years of math.

The same situation is true for science in that non-metro women have taken more science than the metro women. However, of the metro women, proportionately more non-traditional women (44%) have taken two or more years of science than traditional women (35%).

B. Race

Similar years of math and science are taken by White, traditional (62%) and non-traditional (59%) women, and for Whites and Blacks (62%-63%), among the traditional students. But, proportionately more Black non-traditional students (77%) have taken two or more years of math than have White non-traditional students (59%), and proportionately more Black non-traditional women (77%) have taken two or more years of math than have Black traditional women (63%).

Most women completed proportionately the same number years of science; however, fewer Black traditional women took as many years of science as most other women.

Table 36. -- Years of math and science completed, by race of student

Years completed	Students completing courses							
	Math				Science			
	Non-traditional		Traditional		Non-traditional		Traditional	
	White	Black	White	Black	White	Black	White	Black
Less than 1	9.6	5.4	11.0	8.5	10.8	9.6	11.3	15.0
Less than 2	31.6	17.6	27.4	28.8	42.3	38.4	36.3	55.0
2 or more	58.8[a]	77.0[a,b]	61.6	62.7[b]	47.0	52.1[b]	52.3	30.0[b]

Math/(Nt)**, a**, b*; Sci/(Nt)**, (T)*; White (Nt-T)*, b*

C. Parents Education

The education of the parents is related to the number of years of math and science completed by women students. There is a marked difference for women in the number of years of math and science they have taken and the amount of education of their mother or their father. This relationship is particularly significant for non-traditional students. Eleven percent of

Table 37. -- Years of math and science student completed, by their parents' education

Years of math and science and student training	Students completing three or more years of subject				
	Highest grade level completed by mother				
	0 - 8 years	9 - 11 years	12 years	13 - 15 years	16 or more years
Three years or more of math --	(Nt)***				
Non-traditional	11.0	16.7	25.5	28.4	35.1
Traditional	21.3	20.9	29.3	23.4	28.1
Three years or more of science --	(Nt)*				
Non-traditional	8.2	12.3	19.4	18.2	22.4
Traditional	20.9	14.5	16.1	19.7	23.8
	Highest grade level completed by father				
	0 - 8 years	9 - 11 years	12 years	13 - 15 years	16 or more years
Three years or more of math --	(Nt)**				
Non-traditional	14.2	20.5	24.3	26.2	36.9
Traditional	20.4	25.1	27.7	24.7	26.1
Three years or more of science --	(Nt)**				
Non-traditional	7.5	13.7	17.4	23.8	27.3
Traditional	14.7	16.1	18.5	15.2	19.1

non-traditional students whose mothers completed only elementary school had completed three or more years of math compared to 35% of the students whose mothers completed college. For traditional women, the respective percentages vary only from 21% to 28%.

Father's education is also related to the number of math courses taken. Of non-traditional students whose fathers have had only an elementary school education, only 14% have completed three or more years of math compared to 37% of those whose fathers have a college degree. Among traditional women the respective percentages vary only from 20% to 26%.

The differences are not so great for the number of years of science taken by traditional women, but again for non-traditional women, the progression is significant.

It is possible that traditional women whose parents have a college education are not encouraged to take math or science. This may be due in part to the lack of interest or encouragement by parents who have had a college education to daughters who enter vocational training reflecting perhaps the parents' preference that their daughters take an academic program that will prepare them for college.

D. Masculine and Neutral Training

There are proportionately more women in training for masculine occupations who have had less than two years of math compared to women in neutral training. There is virtually no difference in the number of science courses taken between students in masculine and neutral training. As is the case with all women, masculine and neutral women complete more math than science courses. Fifty-five percent of women enrolled in masculine courses had completed two or more years of math, and only 46% have completed two or more years of science.

Table 38. -- Math and science completed by non-traditional students in masculine and neutral training

Years of subject completed	Non-traditional students completing courses			
	Math		Science	
	Masculine	Neutral	Masculine	Neutral
Less than 1	8.3	9.3	11.8	11.1
Less than 2	36.7	29.4	42.1	42.3
Less than 3	37.1	36.7	29.1	30.7
3 or more	17.8[a]	24.6[a]	16.9	16.0

[a] *

VII. Problems and Difficulties of Women in Non-traditional Vocational Training

The women in the non-traditional sample were asked if they had had problems and difficulties during their training program. 1/ The specific areas of problems and difficulties for which students were to respond "yes," "somewhat," or "no," are as follows:

a. Men students find it difficult to adjust to women students;

b. Teachers find it difficult to adjust to women students;

c. Teachers pay more attention to the men students;

d. Counselors pay more attention to the men students;

e. Teachers expect women students to perform at a higher level than men students; and

f. On the whole, the men students are better prepared than women students.

They were also asked how they feel about their preparation in math, science, and technical subjects relative to the men students in the class.

g. Have men students had more science classes than women students?
   h. Is this a problem for you?
i. Have men students had more math classes than women students?
   j. Is this a problem for you?
k. Have men students had more technical subjects than women students?
   l. Is this a problem for you?

The problems which non-traditional students cited most often were related to the men students in their classes, rather than to their teachers or counselors. The women felt that men students had difficulty adjusting to women in the class, that men students were better prepared for their secondary training, and particularly, that men students had taken more technical subjects in high school. Women also indicated that teachers expect women students to perform at a higher level than men.

1/ This question was not asked of the traditional sample.

On the whole, women in classes with few women classmates had the most problems. Generally, the extent of the problems and difficulties decreased with an increase in the number of women in the non-traditional classes, although this was not uniform throughout.

Sixty-five percent of all non-traditional women had some problems, and of those who had problems, 58% had two or more problems.

Table 39. -- Number of problems of non-traditional students

Number of problems	Students responding "yes" or "somewhat" to problem statement	
	All students (n=1006) (percent)	Students with problems (n=653) (percent)
0	35.1	
1	27.5	42.4
2	19.0	29.2
3 or more	18.4	28.3

Comparatively few women (13%-21%) reported having one of the following problems: Counselors/Teachers Gave Men More Attention, and Teachers Had Difficulty Adjusting to Women (21%). The percentages were small enough to indicate that these individual problems were not major issues for most of the non-traditional women.

Table 40. -- Problems of non-traditional students

Problem statement	Students responding "yes" or "somewhat" to problem statement	
	(Percentage of students responing to individual problem statement)	(Percentage of all students with problems)
Men had Difficulty Adjusting to Women	30.7	48.7
Teachers Expect Women to Perform at Higher Levels than men	28.6	45.6
Men Are Better Prepared	23.6	39.2
Teachers had Difficulty Adjusting to Women	20.6	32.9
Teachers Gave Men More Attention	20.5	32.3
Counselors Gave Men More Attention	12.5	19.8

On the other hand, 49% of all who had problems (31% of all non-traditional women responding) agreed that Men Had Difficulty Adjusting to Women. Forty-six percent of those with problems indicated that Teachers Expected More of Women (29% of all non-traditional women). Thirty-nine percent of those with problems (24% of all non-traditional women) indicated that Men were Better Prepared.

A. Minorities

Table 41. -- Problems of non-traditional students, by race and type of problem

Problem statement	Students responding "yes" or "somewhat" to problem statement (percent)	
	White	Black
Men had Difficulty Adjusting to Women	30.6	30.2
Teachers Expect Women to Perform at Higher Levels than Men	28.3	37.7 ***
Men Are Better Prepared	23.7	29.9
Teachers had Difficulty Adjusting to Women	21.2	14.8
Teachers Gave Men More Attention	20.0	26.0
Counselors Gave Men More Attention	12.2	15.6

Although in most categories Black women have more problems than White women, only in Teachers Expect Women to Perform at a Higher Level is there a major difference (28% White; 38% Black). For Teachers Find it Difficult to Adjust to Women, more White women (21%) than Black women (14%) consider this a problem.

B. Place of Residence and Income

There are few differences in problems experienced by metro or non-metro women, or for women with low income.

C. Number of Women in Class

The number of women in the class was a variable that had major impact on the percentage of women who had problems and the percentage who had multiple problems. Forty-four percent of the women in classes with six or more women classmates had no problems. Among women in classes with three or fewer women classmates, only 22% had no problems. Among women in classes with four to five women classmates, 39% had no problems.

The number of women with multiple problems is also less in classes with larger numbers of women classmates. Significantly more students in classes with 3 or fewer women classmates had multiple problems (47%) than those in classes with six or more women (33%) classmates.

Table 42. -- Number of problems of non-traditional women, by number of women in the class

Number of other women in the class	Number of problems		
	0	1	2 or more
	Percentage of students		
0 - 3	21.7	31.5	46.7
4 - 5	39.3	27.4	33.4
6 or more	43.7	23.8	32.6

(Nt)***

D. Presence of Women Classmates and Individual Problems

To determine if the presence of more women classmates affects the women's perception of specific problems and difficulties, the percentage of women experiencing each problem is presented by the number of women classmates present. Analysis reveals that the extent of the problems of Counselors and Teachers Pay More Attention to Men does not vary markedly by the number of women classmates present.

On the other hand, Men (21%) and Teachers (16%) Have More Difficulty Adjusting to Women, and Men are Better Prepared (18%) varied significantly between classes with three or fewer and classes of six or more other women. Proportionately more women responded that Teachers Expect Women to Perform at a Higher Level was a problem in classes of six or more women classmates (32%) than in classes with three or fewer other women (24%).

Table 43. -- Problems of non-traditional women by number of other women in the class

Problem statement	Number of other women in class		
	0 - 3	4 - 5	6 and over
	Students with problems (percent)		
Men Had Difficulty Adjusting to Women***	44.5	29.6	21.0
Teachers Expect Women to Perform at Higher Levels than Men***	23.8	33.3	31.6
Men Are Better Prepared***	35.4	21.9	17.9
Teachers Had Difficulty Adjusting to Women	28.9[a,b]	17.4[a]	16.0[b]
Teachers Gave Men More Attention	22.7	20.2	18.8
Counselors Gave Men More Attention	11.9	13.3	12.5

E. Masculine/Neutral

Proportionately more women who are enrolled in masculine training (78%) have problems than women enrolled in neutral training (60%). More women enrolled in masculine training (48%) experience multiple problems than women in neutral training (34%). It is clear that the group enrolled in masculine training most significantly requires support from persons outside the present classroom in order to reduce the impact of these problems on their ability to learn in the classrooms.

Table 44. -- Number of problems of non-traditional students in masculine and neutral training

Number of problems	Non-traditional students	
	Masculine	Neutral
0	22.0	40.2
1	29.7	25.5
2 or more	48.3	34.0

(Masc-Neut)***

Individual problems and difficulties were examined to determine their prevalence not only on the basis of masculine/neutral training, but also in relationship to the percentage of women enrolled nationally in a particular course to determine whether the most non-traditional programs (those courses with 0-10.0% women enrolled nationally 1/) cause more problems for women than other non-traditional programs (those courses with 10.1-25.0% women enrolled nationally 2/).

Our intent was to determine whether either variable made a significant differences in the problems women experience, and if that difference was a matter of the percentage of women enrolled nationally or whether it was a product of the masculine perception of the training. Our data would indicate that the issue is predominantly the masculine image of the training.

For Men Had Difficulty Adjusting to Women, Men are Better Prepared, and Teachers Had Difficulty Adjusting to Women, there are significant difference between masculine (46%, 38% and 20%) and neutral students (25%, 20% and 18%). The variance in the first two factors repeats in classes of low concentration versus the classes of high concentration although the difference is not so great (36% and 34%, vs. 26% and 17%). For Teachers Had Difficulty Adjusting to Women, there is little difference between women in classes of low concentration and those in high concentration (see Table 45).

Clearly, masculine/neutral is a more significant factor than enrollment concentration in at least two problem areas, Men Had Difficulty Adjusting to Women and Men Are Better Prepared. In order to determine whether the issue of the concentration was largely a product of the masculine/neutral issue, we examined masculine/neutral by those in low concentration classes and those in high concentration classes. The same patterns repeat when both issues are simultaneously considered.

Greater differences exist between masculine and neutral at either level of concentration than between the levels of concentration. There is a 21 percentage point difference of women in low concentration classes between masculine and neutral, and an 18 percentage point difference for women in high concentration classes for women who find that Men Have Difficulty Adjusting to Women Students. But there is only a seven percentage point difference if low concentration masculine courses are compared to high concentra-

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1/ Hereafter called low concentration

2/ Hereafter called high concentration

tion masculine courses. The difference between neutral high and neutral low concentration courses is insignificant.

Teachers Have Difficulty Adjusting to Women has a 10 percentage point difference between masculine and neutral training in both low and high concentration courses, but has less than a three percentage point difference between masculine low and high concentration courses or neutral low and high concentration courses.

Table 45A. -- Problems of non-traditional women by stereotype image of training and percent of women enrolled in each course nationally

Problem statement	Non-traditional students			
	Stereotype image		Percent women enrolled nationally	
	Masculine	Neutral	0 - 10%	10 - 25%
Men had Difficulty Adjusting to Women	46.1[a]	24.8[a]	35.5[d]	26.2[d]
Teachers Expect Women to Perform at Higher Levels	23.3	30.0	24.0	32.4
Men are Better Prepared	37.7[b]	20.4[b]	33.5[e]	16.9[e]
Teachers had Difficulty Adjusting to Women	28.8[c]	17.8[c]	23.4	18.5
Teachers Gave Men More Attention	19.6	21.7	19.7	22.7
Counselors Gave Men More Attention	14.8	11.5	12.4	12.4

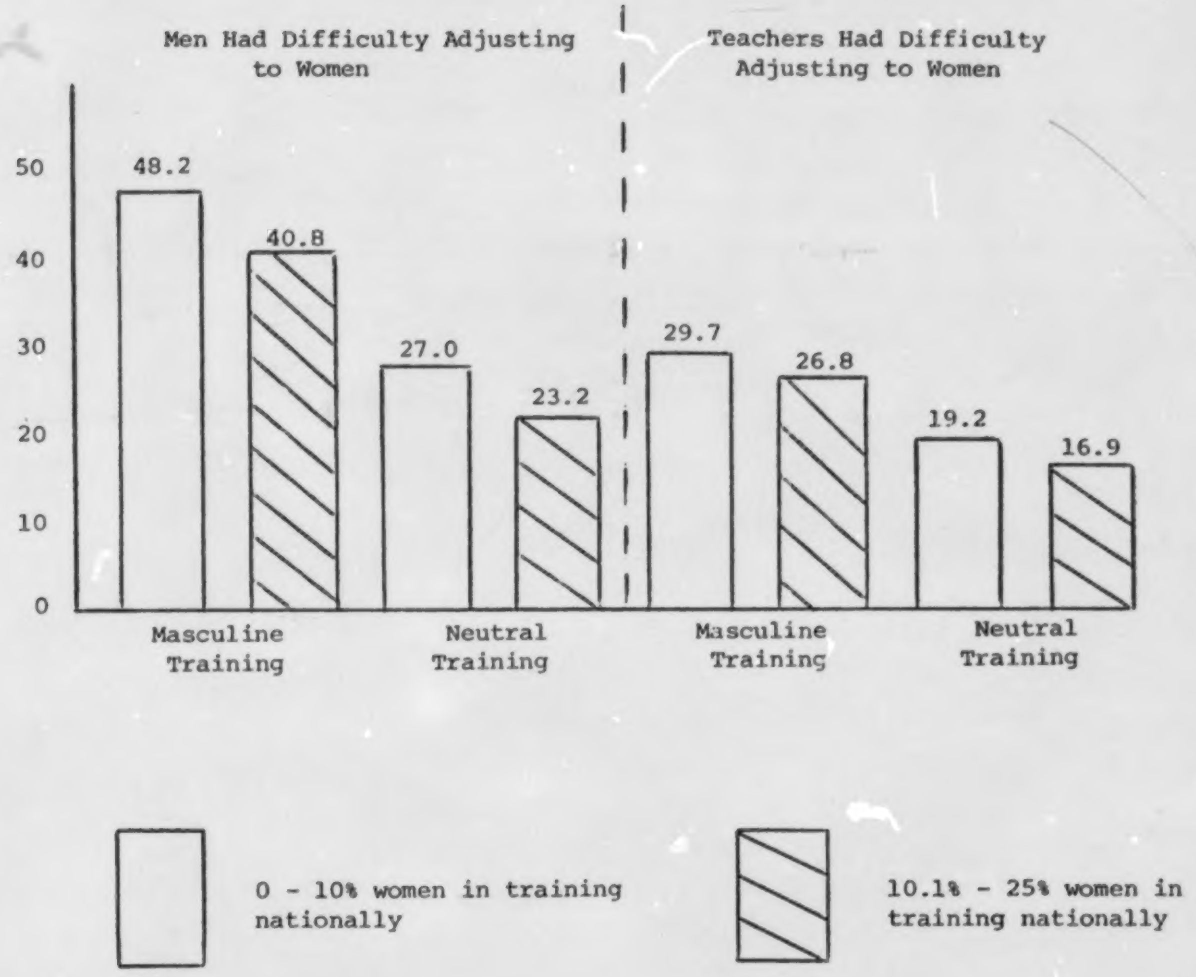
a***, b***, c***, d***, e***

Table 45B. -- Problems of non-traditional women by stereotype image of training and percent of women enrolled in each course nationally (Cont'd)

Problem statement	Non-traditional students			
	0-10% women in training nationally		10-25% women in training nationally	
	Masculine	Neutral	Masculine	Neutral
Men had Difficulty Adjusting to Women	48.2[a]	27.0[a]	40.8[e]	23.2[e]
Teachers Expect Women to Perform at Higher Levels	19.2[b]	27.2[b]	33.3	32.1
Men are Better Prepared	43.0[c]	27.2[c]	24.7[f]	15.3[f]
Teachers had Difficulty Adjusting to Women	29.7[d]	19.2[d]	26.8[g]	16.9[g]
Teachers Gave Men More Attention	18.6	20.3	22.0	22.9
Counselors Gave Men More Attention	15.3	10.5	13.5	12.3

a***, b*, c***, d**, e***, f*, g*

Percent of women with problems in non-traditional training: masculine, neutral, low and high concentration training.



The response to the problem Men Are Better Prepared is affected by both the issue of high and low concentration and of the masculine or neutral images of the training. There is a 16 percentage point difference for masculine and neutral in low concentration courses, and a 10 percentage point difference between masculine and neutral in high concentration courses for Men Students Are Better Prepared. The difference between the low and high concentration masculine students is as great: 18 points for masculine between low and high concentration courses; 12 points for neutral between low and high concentration courses.

As we have already observed, Teachers Expect Women to Perform at a Higher Level again reverses the pattern with more women with problems in neutral classes and in classes of high concentration.

F. Teachers Expect More of Women [1]

Students respond to the problem of Teachers Expect More of Women in a pattern exactly opposite the way they respond to other problem statements (see Tables 46A and B). Mixed women have more difficulties with this problem than non-traditional women. This was the single problem area that gave mixed women any real concern and was more of a problem than any other single problem to neutral non-traditional women.

Non-traditional women in higher income households (30%) find this to be a problem more often than women in lower income households (26%); but mixed women in low income households (44%) have more difficulties than mixed women in higher income households (33%). Teachers Expect More of Women is more prevalent a problem for non-traditional women in classes with six or more women (32%), compared to classes with 0-3 women (24%); it was also more of a problem to mixed women in classes of six or more (39%) than in classes of 0-3 (33%).

More women in neutral occupations (30%) and in high concentration programs (32%) have this problem than women in masculine courses (23%) or in low concentration courses (24%) and both have less of a problem than women in mixed occupations (39%). Women who plan to work seem to be particularly plagued with this problem; 33% of the non-traditional women and 42% of the mixed women who plan to work after high school cited this as a problem.

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[1] Because this problen was patterned differently from all others, the analysis of mixed women has been included to further clarify the pattern.

For All Other Problems more non-traditional women have problems whatever their post-high school plans; whereas for Teacher Expect More of Women the problem is markedly more serious for mixed women whatever their post-high school plans. Also, in almost all cases the differences between the percent that have problems varies only a small amount (3 or 4 percentage points) between those who plan to work and those who have other post-high school plans, whereas Teachers Expect More of Women varies 6-7% between women who

Table 46A. -- Student response to Teachers Expect More of Women Students compared to response to "All Other Problems"

Variables	Teachers Expect More		All Other Problems	
	Non-traditional	Mixed	Non-traditional	Mixed
Work	32.5	42.1	23.0	17.5
Academic	24.5	35.6	19.7	14.0
Vocational	26.2	35.0	23.3	10.9
Other plans	28.3	36.4	20.1	17.0
Number of women				
0-3	23.8	33.4	28.7	15.2
6 or more	31.6	38.5	17.6	15.3
Problems by grade				
9-10	34.8	39.3	21.2	21.4
11	30.1	40.4	22.1	15.8
12	23.7	36.5	21.7	14.6
Race				
White	28.3	36.4	21.5	14.3
Black	37.7	53.0	23.3	24.1
Household income				
Under $10,000	25.9	43.8	22.5	19.1
$10,001 or more	29.9	32.6	21.6	11.7

Table 46B. -- Student response to Teachers Expect More of Women Students compared to response to "All Other Problems" (Continued)

Teachers Expect More			All Other Problems		
Masculine	Neutral	Mixed	Masculine	Neutral	Mixed
23.3	30.0	38.7	29.4	19.2	15.7
National enrollment			National enrollment		
0-10%	10-25%	25-75%	0-10%	10-25%	25-75%
24.0	32.4	38.7	24.9	20.6	15.7

plan to work and women with other post-high school plans. Mixed women have slightly more of this problem (39%) than non-traditional women (35%) during the 9-10th grade. By the 12th grade this problem has dropped 11 percentile to 24% for non-traditional women until it is scarcely more serious than All Other Problems are for non-traditional 12th graders (22%). However, for mixed women there is almost no change between the 9-10th grade (39%) and the 12th graders (37%);and 13% more mixed women than non-traditional at the 12th grade consider this a problem; more than two and a half times as many mixed 12th graders consider this a problem than consider Other Problems an issue.

It is difficult to determine why Teachers Expect More of Women affects women differently than other problem areas. Without further study any explanation, of the variation in the data can only be an effort to account for the discrepancies.

G. Difficulty with Math, Science and Technical Subjects

In addition to numbers of problems and types of difficulties, women were asked if Men Had More Science, Math, or Technical Subjects than women and if this caused the women difficulty.

Table 47. -- Problems related to men's comparative educational background

Problem statement	Students' response	
	Yes	This was a problem to the women Yes/Somewhat
Men Students Had More Science	8.2	5.8
Men Students Had More Math	8.3[a]	6.2[b]
Men Students Had More Technical Subjects	50.1[a]	22.1[b]

a***, b***

Clearly, the high school women do not think that men have more math and science, nor that there is a problem on this issue. However, 50% of the women perceive that men have more technical subjects, but only 22% consider it a problem.

The number of women classmates does not affect the women's perception of men's relevant math and science background. However, significantly more women with three or fewer women classmates (29%) considered it a problem than women with six or more women classmates (17%).

There are no important differences in metro versus non-metro and low and high income women, but there are differences in the perception of White and Black women. Although proportionately more Black than White women perceived that Men Had More Math (18% vs. 8%), More Science (19% vs. 7%) and More Technical Subjects (60% vs.49%), there was little difference in the perception of Black and White women that men having more of these subjects was a problem.

Table 48. -- Women's perception of men's relative math, science and technical background by race

Statement	Students responding "yes" or "somewhat" to statement	
	White	Black
Men Had More Science*** (Yes)	7.4	19.4
This is a Problem (Yes/Somewhat)	5.4	6.4
Men Had More Math** (Yes)	7.8	17.6
This is a Problem (Yes/Somewhat)	6.1	7.6
Men Had More Technical Subjects (Yes)	49.2	60.0
This is a Problem (Yes/Somewhat)	22.4	21.6

There was also a difference in response for women enrolled in masculine as opposed to neutral courses.

There is little difference in the perception of women in masculine and neutral programs that men had more math or more science. A similar percentage of masculine and neutral women found that men's greater math and science background was a problem. However, 58% of women in masculine training and 47% of women in neutral training thought that Men Had More Technical Subjects. However, 33% of masculine women found this to be a problem and only 18% of neutral women thought it was a problem.

For technical subjects, there was also a difference in the women in low versus high concentration classes as well as among those in masculine and neutral subjects. Fifty-seven percent of those in courses with 0-10% women enrolled compared to 43% of those in courses with 10-25% women enrolled perceived that Men Had More Technical Subjects. When the low and high concentration are examined at the same time as masculine and neutral, there is almost no difference for masculine at either concentration but there is a 16 percentile difference for women in neutral training between low and high concentration courses.

Table 49. -- Women's perception of men's relative math, science and technical background, by masculine and neutral training

Statement	Students responding "yes" or "somewhat" to statement (percent)	
	Masculine	Neutral
Men Had More Science (yes)	6.3	9.4
This is a problem (yes/somewhat)	7.3	5.3
Men Had More Math (yes)	8.2	8.5
This is a problem (yes/somewhat) *	8.5	5.1
Men Had More Technical Subjects (yes) **	57.9	47.3
This is a problem (yes/somewhat) ***	33.0	17.6

Table 50. -- Students' perception that Men Had More Technical Subjects by percent women enrolled in courses nationally and stereotype image of courses

Stereotype image of training	Students responding "yes" or "somewhat" to Men Had More Technical Subjects	
	Percent women enrolled nationally in training courses	
	0% - 10%	10% - 25%
TOTAL	57.0 a	43.4 a
Masculine	58.7	56.3 c
Neutral	56.0 b	40.3 b,c

a***, b***, c**

VIII. Employment of Students

This section examines the extent to which the students in the sample were employed while attending school. Characteristics of the employed students are analyzed. The students who were working were also asked if their jobs were related to the occupations for which they were training and whether or not the school had helped them to get their job.

A. Employment by Metro/Non-metro Location

Proportionately, more traditional women (42%) than non-traditional women (35%) were employed. Contrary to the expectation of higher employment in metro areas, a larger percentage of non-metro women than metro women were employed, both among non-traditional and traditional women. The difference between the metro non-traditional women, 33% of whom were employed, and the metro traditional women, 40% of whom were employed, was particularly significant.

Table 51. -- Student employment by place of residence

Location	Students employed (percent)	
	Non-traditional	Traditional
Total	35.4	41.7**
Metro	33.3	40.4*
Non-metro	38.7	42.9

B. By Income/Minority Status

An analysis of the percent of students employed by household income indicates that the higher the income, the more likely it is that the women students are employed. The 8% difference in the employment of students between low income and moderate to high income is the same among the non-traditional women (32-40%) as it is among the traditional women (36-44%). The difference in employment between non-traditional and traditional women at both income levels is the same (32-36% and 40-44%). Thus, women from

Table 52. -- Student employment by household income

Household income (annual)	Students employed (percent)	
	Non-traditional	Traditional
$0-10,000	31.8[a]	36.2[b]
$10,001 and over	40.2[a]	44.4[b]

a*, b*

families with a lower income who are most likely to need employment are the women least likely to be employed.

C. Mothers Working Status

Whether or not a student's mother ever worked had an influence on whether the student worked while attending school.

Table 53. -- Students employment by mothers work history

Mothers ever worked	Students employed (percent)	
	Non-traditional	Traditional
Yes	36.9[a]	43.4[b]
No	28.2[a]	33.8[b]

a*, b*

For both the non-traditional and traditional samples, proportionately more students worked while attending school whose mothers had worked at some time in the students' lifetime than students whose mothers had never worked. In each sample the difference in percent employed between those whose mother had worked and those whose mother had never worked was nine percentage points. In all cases, proportionately more traditional students were employed than non-traditional students.

Among those students whose mothers had worked at some time, the length of time the student's mother worked also had some bearing on whether the student worked while attending school. The difference, however, was not so great as between those whose mothers worked and those whose mothers never worked.

Table 54. -- Students employed, by race

Race	Students employed (percent)	
	Non-traditional	Traditional
White	37.4	43.3
Black	20.0	21.9

(Nt)** (T)**

A larger percentage of White women, both non-traditional (37%) and traditional (43%), than Black women, (20% and 22%, respectively) were employed while attending school.

D. Employment in Related Occupations

Considerably more traditional women are employed in occupations related to their area of study than non-traditional women. Thirty-six percent of traditional women compared to only 17% of non-traditional women were employed in jobs related to their programs of study.

Table 55. -- Relationship of job to training

Job is related to study	Students employed (percent)	
	Non-traditional	Traditional
Yes	17.1	36.3***
No	82.9	63.7

Research has indicated that the learning experience derived from on-the-job training is an important asset to overall skill development. Thus, since so few non-traditional women are employed in jobs that are related to their vocational program, they are, therefore, receiving less of the advantage that comes with a training-related job.

Table 56. -- Student employment, by their post-high school plans

Post-high school plans	Students employed (percent)	
	Non-traditional	Traditional
To work	34.7	45.1***
Academic program	41.2	44.6
Vocational program	33.3	33.1
Other plans	27.3	24.3

Among those who plan to work after school, proportionately more traditional (45%) than non-traditional students (35%) are employed; on the other hand, among those who plan to attend a postsecondary vocational school there is no difference between non-traditional and traditional women. Those who plan neither to work nor attend postsecondary school had the lowest percent employed. The difference between the traditional and non-traditional women was negligible for this group. The highest level of employment for non-traditional women are those who intend to enter a postsecondary academic program (42%). Traditional women who intend to pursue a postsecondary academic program have an equally high incidence of employment.

E. Role of School in Job Placement

Overall, schools assisted only a small percentage of women in the sample to obtain their jobs. Twenty-four percent of the employed traditional women in the sample received help in job placement from their schools while only 13% of the employed non-traditional women received help in job placement from their schools.

Table 57. -- School assistance in job placement

School helped place student (percent)	Students employed	
	Non-traditional	Traditional
Yes	13.4	23.8
No	86 o	76.2

(Nt-T)***

In all cases where the school helped find the job, it was more likely that the work was related to what the woman was studying. However, there is a marked difference in the percentage of traditional women and non-traditional women who were placed in related jobs by the schools.

Table 58. -- School assistance in job placement, by relationship of job to training

Job is related (percent)	School helped place student	
	Non-traditional	Traditional
Yes	63.3	83.7 **
No	36.7	16.3
	School did not help place student	
Yes	10.1	20.8 ***
No	89.9	79.2

Of the responses from the educational personnel named as very influential by the non-traditional women, 68% felt that it was more difficult to place non-traditional than traditional women.

Sixty percent of the educational personnel believed it more difficult to place women enrolled in non-traditional training than it was to place men enrolled in the same courses. There was no difference between teachers and counselors, but proportionately more men educational personnel thought it was easier to place the non-traditional women than women personnel did. Importantly, several men vocational teachers who themselves were actually involved in placement indicated that it was much easier to place a woman than a man who completed a non-traditional program because industry, due to the pressure of affirmative action, were anxiously recruiting women trained in non-traditional occupations.

While 84% of the traditional women who were placed by the school were placed in related jobs, the schools placed only 63% of the non-traditional women in related jobs. The importance of the school's assistance is substantiated by the fact that only 10% of the non-traditional women and 21% of the traditional women who found jobs on their own were able to find jobs related to their area of study. A smaller percentage of non-traditional women (37%) and traditional women (16%) who were employed in jobs that were not related to their area of training had been so placed with the assistance of their schools. The difference for non-traditional and traditional women between the percentage placed in a related job was substantial. The school was far abler to find related jobs for non-traditional women than the students were able to find themselves. Thus, while 37% of the employed traditional women and only 18% of the employed non-traditional women were working in jobs related to their area of training, the difference between the two groups is due in large measure to the higher percentage of traditional women who were assisted by their schools to find their jobs.

A larger percentage of the educational personnel indicated that the school was involved in placement than the non-traditional students indicated that they had been helped by the school to obtain a job. With the higher percentage of traditional women who were placed, one questions whether the school is offering more help to men and women students enrolled in courses that are traditional for their sex.

Where the school helped non-traditional women, there was no difference between the percent assisted among women students enrolled in masculine or neutral training.

Table 59. -- School assistance in job placement for students in masculine and neutral training

School helped place student (percent)	Students employed	
	Masculine	Neutral
Yes	14.4	13.5
No	85.6	86.5

On the other hand, even though the school assisted only a small percentage of the students, there were proportionately more women in masculine training who found employment in related jobs than those in neutral training.

Table 60 -- Relationship of job to training for students in masculine and neutral training

Job is related (percent)	Students employed	
	Masculine	Neutral
Yes	28.6	12.3
No	71.4	87.7

(Masc-Neut)***

The fact that the schools had better success with placing traditional women in related jobs than it had in placing non-traditional women in related jobs suggests that the schools have not invested the effort in placing non-traditional women, although there is no evidence that much effort was expended in either case. Existing evidence shows that employers, in order to meet governmental pressure for affirmative action, are ready to place women in male-intensive non-professional occupations if they are adequately prepared. Women enrolled in courses to acquire these skills are as well prepared as the men in their courses. Organizing and gaining support for the placement of women in non-traditional occupations will require more effort on the part of the school.

IX. Alternative Occupations Considered by Women

To assist women in making occupational choices and to expand their choices, it is necessary to understand the process utilized by students who have already decided to enroll in non-traditional or traditional training. To do this, it is useful to examine the range of training programs that women considered when making their choices. Accordingly, the students in the sample were asked if they had seriously considered any training other than the one in which they were presently enrolled, and if so, to identify the alternative training they considered. The responses are examined by (a) the extent to which women had considered training for any alternative occupations, and (b) the typology of these alternative occupations.

Table 61. -- Alternative occupations

Consideration and type of alternative	Students considering an alternative occupation (percent)	
	Non-traditional	Traditional
Considered alternative	55.1	52.7
Alternative considered		
Non-traditional	33.1	16.9
Mixed	33.7	36.4
Traditional	33.3	46.7

(Nt-T)***

The percentage who considered an alternative was about the same for each group; but what they considered differed. The non-traditional women considered occupations equally divided among non-traditional, mixed and traditional alternatives, whereas almost half the traditional women (47%) considered other traditional occupations and only 17% considered non-traditional occupations as an alternative.

A majority of all women considered professional or technical occupations (56% of non-traditional and 53% of traditional women) as an alternative. However, a larger percentage of non-traditional women (32%) considered technical alternatives than traditional women (24%) and more traditional women (29%) considered professional occupations than non-traditional women (24%). The response to clerical and sales alternatives was similar for both groups, but higher for traditional women (22%) than non-traditional women (17%).

Table 62. -- Occupational distribution of alternatives

Alternatives considered	Students considering alternative (percent)	
	Non-traditional	Traditional
Professional and managerial	23.8	29.0
Technical	31.8	24.0
Clerical and sales	17.0	22.3
Skilled/semi-skilled	10.7	4.0
Services	16.4	20.6

(Nt-T)***

Only 11% of the non-traditional women considered other skilled or semi-skilled occupations; however, this was significantly higher than the 4% of traditional women who considered these occupations.

More women (39%) enrolled in masculine non-traditional vocational training considered non-traditional occupations as alternatives, whereas women in neutral occupations were more evenly divided in having considered the mixed (35%) and traditional occupations (34%).

Table 63. -- Alternative considered by students in non-traditional masculine and neutral training

Type of alternative considered	Non-traditional students considering alternative occupations	
	Masculine	Neutral
Non-traditional	39.0	31.2*
Mixed	28.0	34.6
Traditional	32.9	34.3

In examining the potential pool of women who could be interested to enter non-traditional occupations, one consideration might be those mixed and traditional women who had considered non-traditional training as a serious alternative, but who decided finally to enroll in a subject area that was mixed or traditional. Of those considering alternatives, only 17% of the traditional women and 21% of the mixed women, however, considered non-traditional training opportunities.

This suggests that there is only a limited interest on the part of women, at present, to consider non-traditional training. On the other hand, there is apparently a larger pool of women interested in the mixed occupations. It would appear that there is a large group of women who could be encouraged to enter the mixed occupations, and that the results of a strategy to inform women about these opportunities are likely to have a greater effect on broadening women's career choice than attempting to move women only from traditional to non-traditional occupations.

X. Post-High School Plans

Students were asked what their plans were after their high school graduation. If they planned to work, they were asked in what occupation. If they planned to attend a postsecondary vocational program, they were asked what the program would be.

The plans of non-traditional and traditional women were similar, 47% of traditional and 43% of non-traditional women planned to work. Twenty-nine percent of each group planned to attend an academic program and 16% planned to attend a postsecondary vocational program. Twelve percent of non-traditional and 8% of traditional women had plans to marry or no specific plans after graduation.

Table 64. -- Post-high school plans

Post-high school plans	Students responding	
	Non-traditional	Traditional
To work	42.9	46.7
Academic program	28.8	29.5
Vocational program	16.2	16.1
Other plans	12.2	7.7

(Nt-T)**

A. Job Seekers

Of those who plan to work, a bare majority (52%) of non-traditional women are seeking non-traditional jobs whereas 79% of traditional women are seeking traditional jobs. Even if the large 18% of the non-traditional women who are undecided about what kind of job they will seek are taken into account, non-traditional women expect to seek proportionately fewer jobs in areas in which they are being trained than are traditional women. Seventeen percent of non-traditional job seekers plan to enter a traditional job whereas only 6% of traditional job seekers intend to enter a non-traditional job. Non-traditional women also seek mixed jobs (12%) proportionately more than do traditional women (7%).

Table 65. -- Jobs sought by students planning to work after high school

Type of job sought	Students seeking job (percent)	
	Non-traditional	Traditional
Non-traditional	51.8	5.7
Mixed	11.8	6.8
Traditional	17.4	79.1
Undetermined	17.9	7.7

(Nt-T)***

Of the non-traditional women seeking jobs, 24% will seek a skilled job, and 16% will seek a technical job. The next largest group are those (9%) who will seek clerical positions. This compares to 42% of traditional job seekers who plan to enter clerical occupations and 35% who plan to enter the services. Thus for non-traditional women the two largest occupational choices account for only 40% of all job seekers; however, for traditional women they account for 76% of all job seekers.

Table 66. -- Occupational choice of students who plan to work

Occupational choice	Students planning to work (percent)	
	Non-traditional	Traditional
Professional	3.1	2.6
Technical	16.2	2.0
Manager	2.1	0.7
Clerical	9.0	41.6
Sales	2.9	2.9
Skilled	24.0	0.4
Agricultural	1.4	0.0
Laborer	2.9	0.2
Semi-skilled	6.9	3.5
Services	7.8	34.8
Military	5.9	3.5
Undetermined occupation	17.8	7.7

(Nt-T)***

B. Postsecondary Vocational Choice

Among the 16% of the traditional and non-traditional women who plan to go to postsecondary vocational schools, 80% of non-traditionals plan to enter agricultural, technical, or trade and industrial programs, predominantly non-traditional areas, compared to 73% of traditional women who plan to enter business, health, and home economics, predominantly traditional areas. Sixty-four percent of non-traditional women but only 35% of traditional women plan to continue in their exact same training programs.

Table 67. -- Broad classification of training selected by students planning to attend a postsecondary vocational program

Broad classification of postsecondary training	Students planning to enter a post-secondary vocational program (percent)	
	Non-traditional	Traditional
Agribusiness	7.2	0.0
Marketing Distribution	0.7	3.5
Health	4.6	33.1
Home Economics	2.6	5.6
Business	12.5	34.5
Technical	13.2	0.7
Trade and Industrial	59.2	22.5

(Nt-T)***

A larger percentage of traditional women will enter a program in the same broad classification 1/ as they are now in (see Table 68). One of the most interesting issues raised by the selection of postsecondary vocational training is the fact that examining the individual selection by students planning to enter postsecondary vocational technical training all the non-traditional students have selected non-traditional training; all mixed students have selected mixed training; and all traditional students have selected traditional training. This, regardless of the 20% of the non-traditional; 35% of the mixed, and the 24% of the traditional who selected training in a broad classification different from their high school program.

1/ The seven broad classifications are: agriculture, marketing and distribution, health, home economics, business, technical, trade and industrial.

Table 68. -- Relationship of planned postsecondary training to present training for students planning to enter a postsecondary vocational program

Postsecondary training planned	Students planning to enter a postsecondary vocational program (percent)	
	Non-traditional	Traditional
Same training	64.8	35.3
Same broad classification	15.2	42.5
Different broad classification	20.0	24.1

(Nt-T)***

The six most often selected courses among the non-traditionals account for 58% of the non-traditional students entering postsecondary vocational schools. The six most often selected courses by traditional women account for 82% of all traditional students entering postsecondary vocational schools.

Table 69. -- Six training programs most often selected by students planning to enter a postsecondary vocational program

Postsecondary vocational program selected	Non-traditional students planning to enter a postsecondary vocational program	Postsecondary vocational program	Traditional students planning to enter a postsecondary vocational program
Six courses	58.2	Six courses	82.0 ***
Graphic arts	20.9	Cosmetology	22.2
Drafting	13.6	Practical nursing	20.5
Auto mechanics	7.3	Stenographic, secretarial and related training	17.1
Architectural technology	6.4	General office	10.3
Agribusiness	5.5	Nursing, RN	6.8
Electronic technology	4.5	Care and guidance of children	5.1

C. Race

Blacks have quite different high school plans than do Whites. Among non-traditional women, although a similar percentage will go to work (44%

Black and 43% White) proportionately more Black (44%) than White (28%) women are going to post-high school academic programs rather than vocational programs. Among traditional women, similar percentages of Black and White students are planning to attend postsecondary academic and vocational programs, but proportionately fewer Blacks plan to go to work.

Table 70. -- Post-high school plans, by race

Post-high school plans and race	Students responding (percent)	
	Non-traditional	Traditional
To work		
White	43.0	47.5
Black	43.9	39.6
Academic program		
White	27.7	30.2
Black	43.9	30.2
Vocational program		
White	16.2	15.1
Black	8.5	19.1
Other plans		
White	12.7	7.1
Black	3.7	11.1

Nt**

The smaller percentage of traditional Blacks going to work (40%) is offset by the larger percentage going to postsecondary vocational school and having other plans.

D. Metro and Non-metro

The difference in post-high school plans between metro and non-metro students are insignificant.

E. Parents Education

A progressively smaller percentage of non-traditional women enter work directly from high school, based on the amount of education of their parents.

Forty-five percent of non-traditional students whose mothers had less than high school education plan to work compared to 21% of those whose mothers attended college. The same pattern exists relative to father's education. Forty-five percent of women whose father had less than a high school education, and 25% whose fathers attended college plan to work on graduation. The same pattern exists for traditional women although the difference is not quite so dramatic (51% to 26% based on their mother's education, and 51% to 37% based on their father's education). The reverse is true for

Table 71. -- Post-high school plans, by parents' education

Sample type and parents education 1/	Students post-high school plans (percent)			
	To work	Academic program	Vocational program	Other plans
Non-traditional Mothers Education				
0 - 8	43.6	17.2	22.9	16.0
9 - 11	50.2	21.1	13.6	15.0
12	45.6	27.3	16.8	10.3
13 - 15	26.6	44.7	15.9	12.7
16 or more Nt***	18.8	61.3	16.3	3.8
Traditional Mothers Education				
0 - 8	58.5	17.1	13.8	10.7
9 - 11	51.5	21.0	16.5	10.9
12	46.1	29.7	17.7	6.4
13 - 15	34.2	51.9	11.4	2.5
16 or more T***	24.2	59.1	12.1	4.5
Non-traditional Fathers Education				
0 - 8	44.0	22.7	22.0	11.4
9 - 11	49.7	17.4	18.8	14.1
12	45.5	27.1	13.6	13.9
13 - 15	28.8	44.1	17.7	9.3
16 or more Nt***	24.5	57.6	11.8	5.9
Traditional Fathers Education				
0 - 8	58.4	14.3	17.3	10.1
9 - 11	50.0	23.7	18.2	8.1
12	43.4	33.0	17.2	6.3
13 - 15	38.9	40.0	15.5	5.5
16 or more T***	37.1	51.5	7.2	4.1

1/ Parents' education in number of years of schooling each completed.

women planning to enter postsecondary academic programs; 20% of non- traditional women whose mothers and fathers had less than a high school graduation and 52% and 51% of women whose parents had some college planned to enter postsecondary academic programs; the figures range from 19% and 20% to 55% and 45% for traditional women. This could be partially a result of the limitations caused by the fact that families with less education have a lower income, since similar data are reflected in the data on household income. A larger percentage of students from households with over $15,000 incomes plan to enter a postsecondary academic program than students from households in the lower incomes. This is clearly true for both non-traditional women (27%-47%) and traditional women (24%-44%). Also women from lower income families are more likely to work (45% of non-traditionals and 50% of traditionals) than in families of higher income where only 31% of non-traditional and 37% of traditionals plan to work on graduation.

The difference for those planning to attend postsecondary vocational programs is much less dramatic, but indicates a definite pattern. Fifteen percent of non-traditional women whose father attended college plan to enter a postsecondary vocational program versus 20% whose father has less than a high school education, and 12% of the traditional women whose fathers had some college, but 17% of women whose fathers had less than a high school education plan to enter a postsecondary vocational program.

Table 72. -- Students' post-high school plans, by their household income

Post-high school plans and household income	Students with plans (percent)	
	Non-traditional	Traditional
To work		
less than $15,000	45.0	50.2
$15,001 or more	31.0	36.9
Academic program		
less than $15,000	27.0	23.6
$15,001 or more	46.7	44.3
Vocational program		
less than $15,000	17.4	17.2
$15,001 or more	14.8	16.7
Other plans		
less than $15,000	10.5	9.1
$15,001 or more	7.4	2.0

Nt*** T***

Proportionately more women who plan to enter a postsecondary academic program took two or more years of science or math than either women who plan to enter a postsecondary vocational program or women who plan to go to work. It would appear that these women are encouraged to take more math and science on the expectation that they may continue in an academic program, and that they will need the math and science if they do. Other students who may not have indicated interest in an academic program do not continue with math and science, although women entering postsecondary vocational training may very well need science and math. Thus the question can be raised whether counselors/teachers still are placing their major emphasis on the college-bound.

Table 73. -- Math and science completed,by students' post-high school plans

Math, science completed and post-high school plans	Students completing two or more years of subject (percent)	
	Non-traditional	Traditional
Two or more years of math		
To work	55.8	60.3
Academic program	69.6	68.0
Vocational program	56.7	55.5
Other plans	50.4	55.7
Two or more years of science		
To work	40.1	45.7
Academic program	56.9	62.5
Vocational program	50.0	45.4
Other plans	40.3	43.7

F. Consideration of Alternatives and School Personnel Influence

Non-traditional women vocational students who plan to work do not consider as many alternatives as women who plan to attend postsecondary programs which suggests that counselors invested greater effort with women with other postsecondary plans.

Table 74. -- Students who considered alternative occupations, by post-high school plans

Post-high school plans	Students considering alternative occupations (percent)	
	Non-traditional	Traditional
To work	53.3	52.2
Academic program	59.3	51.9
Vocational program	61.3	63.1
Other plans	42.6	35.2

(Nt-T)*

G. Educational Personnel

Of the educational personnel responding (38% made no response), as to what they expected that the women enrolled in non-traditional training were likely to do on graduation from high school, the aggregate of their responses was that:

61% would go to work on completing high school

    28% in a job related to their present training
    33% in a job not related to their present training

17% would attend a 2 or 4 year academic program

18% would enter a postsecondary vocational technical program

    11% in a program related to their high school program
    7% in a program not related to their high school program

4% would be involved in other pursuits

It is important that educational personnel who were very influential on non-traditional women's selection of training believed that only 39% of all non-traditional vocational training students would seek activities related to their studies, also that they believed that so large a percentage (61%) would be working on graduation. Only 43% of the non-traditional students expected to be working; and 33% expected to be working or attending postsecondary technical programs that were related to what they were studying in high school.

H. Number of Women in Class

The post-high school plans vary among women in classes with few and many women classmates. Of those non-traditional women who attended class with 0 - 3 women classmates, 34% plan to work, and 21% plan to attend postsecondary vocational programs. For those with four or more women classmates, 49% intend to work and only 13% will attend a postsecondary vocational program. It is not clear from the data whether this difference is due to the requirements of certain occupations for more education, or whether the women in classes with few women classmates are more unsure of their skills and their opportunities for adjusting to a job situation without further training. These are the women, however, who had the most problems in class and this may be a cause for them to be insecure about their skills or their ability to adjust to men on the job (see Chapter VII, Problems and Difficulties).

Table 75. -- Post-high school plans of non-traditional students, by number of women classmates

Post-high school plans	Non-traditional students (percent)		
	Number of women classmates		
	0 - 3	4 - 5	6 or more
To work	33.6	48.7	49.0
Academic program	32.0	25.6	26.7
Vocational program	21.1	13.7	12.4
Other plans	13.4	12.0	11.8

Nt***

Table 76. -- Post-high school plans of women in non-traditional masculine and neutral programs, and mixed programs

Post-high school plans	Non-traditional students		Mixed students
	Masculine	Neutral	
To work	37.2	46.5	49.1
Academic program	30.2	27.0	27.3
Vocational program	21.7	13.8	13.1
Other plans	10.9	12.7	10.5

(Masc-Neut)*

A further indication of who goes on to postsecondary vocational training proportionately more women in masculine-image programs (22%) continue on to postsecondary vocational school than do women in neutral programs (14%), and proportionately fewer masculine-image women (37%) plan to work than neutral women (47%).

Sixty-five percent of non-traditional women who will attend postsecondary vocational programs are continuing in the exact same training; this group consists of a slightly larger percentage of the women in neutral non-traditional (66%) courses than of the women in masculine non-traditional courses (63%). Although this sample of women is too small for the data to be significant, it does indicate that the experience of participating in a masculine vocational program at the secondary level has not persuaded those women to change their mind about their training and enter a different program in postsecondary vocational technical schools. However, in view of the overall sample, this is the group of non-traditional women most committed to their non-traditional occupational choice. Only half of women going to work and fewer than 40% of those going on to an academic program plan eventually to work in the area in which they are presently training.

Table 77. -- Relation of planned postsecondary training to present training for students presently in non-traditional masculine and neutral vocational programs

Postsecondary training planned	Non-traditional students planning to enter a postsecondary vocational program (percent)		
	All non-traditional	Masculine	Neutral
Total sample	n=105	n=40	n=65
Exact same	64.8	62.5	66.1
Same broad classification	15.2	20.0	12.3
Different broad classification	20.0	17.5	21.5

XI. Characteristics of the Mixed Sample

The data from this study confirm the preliminary findings from our postsecondary study that women training for mixed occupations are a separate group with characteristics that differ both from the traditional and the non-traditional women.

The mixed occupations offer training in areas which require skills in math and science, in business and sales, and in management. This range is great enough to offer something to women who are seeking different roles from the traditional ones, but who are insecure about how far into the non-traditional fields they are able or desire to go. Training for mixed occupations permit women to move through the mixed fields such as business data processing and marketing which can lead to opportunities for advancement into management, and which, in most cases, pay considerably more than do traditional jobs. Most of these mixed occupations are neutral in their image and expectations.

A review of the data from the sample of mixed women indicates that in their response to the school system, i.e., the influence of teachers and counselors and counseling techniques, the percentage of positive responses of mixed women as a group tend to fall midway between the responses of the traditional and non-traditional women. In responses geared toward issues of sex bias, the mixed women have fewer problems because most mixed occupational images are more neutral and there is already an acceptance of both men and women in these occupations. Like the non-traditional women the mixed women have higher percentage of minority participation possibly because of the attractiveness of earnings to groups who are moving up in economic status. But there the similarities stop. Motivations, post-high school plans, math and science background, and employment patterns of the mixed women are different from both those of the non-traditional and traditional women.

This chapter analyzes the key issues described in each of the patterns chapters as it affects mixed women in comparison with non-traditional and traditional women. In the Executive Summary, the findings from mixed data are reported by each topic in concert with the non-traditional and traditional analysis.

A. Demography

With few exceptions, the demographic characteristics of the non-traditional and traditional students were quite similar. The exceptions include geographic location and racial/ethnic distribution. The metro/non-metro distribution of the mixed sample falls midway between the non-traditional and traditional women. Sixty-one percent of non-traditional women, 54% of mixed women, and 49% of traditional women are from metro areas.

Table 78. -- Metropolitan location of students

Area	Women students in each area (percent)		
	Non-traditional	Mixed	Traditional
Metropolitan	60.7	54.2	49.3
Non-metroplitan	39.3	45.8	50.7

(Nt-M)** (Nt-T)***

There are considerably fewer Whites in the mixed sample (83%) than in either the non-traditional (89%) or traditional samples (90%), and the difference is statistically significant. When the race data are crossed with metro/non-metro data then the higher concentration of Blacks in mixed training in metro areas is particularly noteworthy.

Table 79. -- Racial distribution of metro and non-metro students

Racial/ethnic group	Students in each racial/ethnic group					
	Non-traditional		Mixed		Traditional	
	Metro	Non-metro	Metro	Non-metro	Metro	Non-metro
White	90.5	87.3	81.5	84.5	91.0	88.1
Black	5.7[a]	11.5	14.0[a]	11.5	4.5	8.2
Other Minority#	3.5	1.2	4.5	4.0	4.5	2.8

a*** (Nt)*** (M)** (T)***

#/Includes Hispanis, Asian, American Indian and Alaskan Native.

Race data separated by region and metro/non-metro location point up a high (relative to non-traditional and traditional women) participation of Blacks in mixed training in metro areas of the North Central, South, and West regions, and in non-metro areas of the South (see Methodology). Thus, the Black women students would appear to be moving out of the traditional areas faster than are the White students.

B. Influentials

The percentage of mixed women influenced by non-school personnel falls almost exactly between that for non-traditional and traditional women. Mothers are very influential for 47% of the traditional women, 37% of the mixed women, and 28% of the non-traditional women. The situation is similar for other non-school personnel. However, the relative influence of non-school persons is somewhat different. As is true for traditional and non-traditional groups, for mixed students, mothers are more influential than fathers, and women friends are more influential than men friends. However, similar to the traditional students and unlike the non-traditional students, women relatives are more influential than men relatives.

Table 80. -- Importance of family and friends in students' selection of training

Persons	Students considering person very important (percent)		
	Non-traditional	Mixed	Traditional
Mother	28.4	37.4 ***	46.5 ***
Father	22.9	27.1 *	28.2 **
Men friends	14.4	12.3	9.9 *
Women friends	21.4	20.5	24.1
Men relatives	11.5	7.8 *	6.9 *
Women relatives	9.2	12.3 *	15.7 **

C. School Personnel Influentials

As is true for traditional and non-traditional women, proportionately more mixed women were influenced by counselors (51%) than by teachers (39%). Although the percentage that were influenced by counselors was similar (46% non-traditional; 51% mixed, and 50% traditional), the difference in percentage of mixed women who were influenced by counselors compared to those influenced by teachers is greater for mixed women (a 12 percentage point differential) compared to non-traditional women (a 10 percentage point differential) and traditional women (a 4 percentage point differential). This differential is greater at the senior high school level, than at the junior high school level.

Table 81. -- Importance of school personnel on students' selection of training

School personnel	Importance of school personnel (percent)					
	Non-traditional		Mixed		Traditional	
	Some/ Very	Not	Some/ Very	Not	Some/ Very	Not
Teachers	36.4	63.6	38.5	61.5	45.7***	54.4
Men	30.6	69.5	27.7	72.4	25.2**	74.8
Women	20.0	80.0	27.7***	72.3	38.3***	61.7
Junior high	14.3	85.7	17.5	82.5	16.8	83.2
Senior high	31.3	68.6	34.2	65.8	40.7 ***	59.8
Counselors	45.7	54.2	51.1*	48.9	50.4 *	49.6
Men	33.5	66.6	37.8*	62.1	36.1 *	63.9
Women	24.1	75.9	28.5*	71.6	30.9 ***	69.1
Junior high	17.0	83.0	19.7	80.3	19.7	80.3
Senior high	40.0	60.0	43.8	56.2	42.9	57.0

A similar percentage of mixed women are influenced by men teachers (28%) and women teachers (28%) as opposed to non-traditional women who are predominantly influenced by men teachers (31% men/20% women) or to traditional women who are predominantly influenced by women teachers (38% women/25% men).

Table 82. -- Vocational and academic teachers mentioned by students as influential

Teaching area	Influential teachers (percent)								
	Mentioned by non-traditional students			Mentioned by mixed students			Mentioned by traditional students		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Total	n=595	n=355	n=240	n=649	n=308	n=341	n=670	n=264	n=396
Vocational (percent)	42.4	54.4	24.6	41.9	40.9	42.8	50.3	38.6	59.3
Academic (percent)	47.4	36.6	63.3	46.4	47.1	45.7	44.5	54.9	36.1
Other+/ (percent)	10.3	9.0	12.1	11.7	12.0	11.4	5.2	6.4	4.5
	(Nt)***						(T)***		

+/ Other teachers include those teaching physical education, art and career education.

Women in the sample were asked to specify the teaching field of teachers who were influential. Forty-two percent of the teachers who are influential on non-traditional and mixed women are vocational teachers, compared to 50% of the teachers who influence traditional women. Proportionately more academic and other teachers were influential for mixed and non-traditional women.

Forty-one percent of the men teachers, and 43% of the women teachers influencing mixed women are vocational educators, almost evenly divided by sex, whereas there is about a 30 percentage point differential for non-traditional women and a 20 percentage point differential for traditional women between men and women teachers who are vocational educators.

Table 83. -- Sex of influential teachers, by teaching area

Teaching area	All teachers mentioned as influential					
	Mentioned by non-traditional students		Mentioned by mixed students		Mentioned by traditional students	
	Men	Women	Men	Women	Men	Women
Vocational education	76.6	23.4	46.3***	53.7	30.3***	69.7
Academic and other	47.2	52.8	48.3	51.7	50.2	49.8

The teachers other than the vocational educators influencing mixed women are almost evenly divided between men and women--the same as for traditional and non-traditional women.

At the secondary level, the key factor of the teachers selected by students as influential is whether the persons teaching vocational education are themselves men or women. Vocational educators influential to mixed women are 46% men and 54% women; other influential teachers of mixed women are evenly divided between men and women. More men than women teach non-traditional vocational education and are, therefore, influential on non-traditional women students. Women vocational education teachers are likewise influential on traditional women.

D. Counseling Techniques

Table 84. -- Importance of selected counseling programs on students' selection of training

Counseling program	Students responding very important (percent)		
	Non-traditional	Mixed	Traditional
Career education	42.1	44.5	47.0 *
Career orientation	39.4	40.7	42.4
Job site visitation	33.3	35.7	39.4 **
Individual counseling	28.9	28.0	25.5
Industry representative	22.1	25.6*	25.4 *
Group counseling--			
Men and women	16.7	14.7	11.2***
Women	3.2	5.1*	7.0***
Vocational testing	15.7	19.4*	22.2***

Women in each group responded similarly to each of the counseling techniques. The percentage of mixed women who find each counseling technique useful, is by and large midway between the percentage of non-traditional and traditional women who find counseling techniques influential.

Table 85. -- Importance of selected counseling programs on students' selection of training, by race

Counseling program	Students responding very important (percent)					
	Non-traditional		Mixed		Traditional	
	White	Black	White	Black	White	Black
Career education	42.4	35.4	45.2	37.4	46.9	43.8
Career orientation	39.6	35.4	42.4	30.0**	42.2	43.8
Job site visitation	31.7	50.0**	36.7	34.7	40.3	34.4*
Individual counseling	28.1	36.3*	25.8	43.5***	25.0	35.9**
Industry representative	20.6	37.5	25.3	27.6	24.8	32.8
Group counseling--						
Men and women	15.4	32.5***	13.9	22.8***	9.9	20.3***
Women	3.2	5.0	4.3	8.9*	6.7	4.7
Vocational testing	14.9	22.8*	17.5	30.6**	21.1	31.3*

When the responses are separated by race, the patterning of data is similar for Whites to that of the entire sample. However, the three programs, career education, career orientation, and job site visitations that have proven most successful for Whites have not been as influential on Black women, particularly Black mixed students. The difference is greatest between Black and White mixed women for career education (8 percentage points) and career orientation (12 percentage points). Programs that are least successful for White women (individual counseling and group counseling with women only) have been somewhat more successful for all Black women, and in most cases have been particularly influential on Black mixed women. Of particular note is the impact of individual counseling. Black women who find individual counseling influential are 18 percentage points higher than White mixed women, and 8 percentage points higher than either Black traditional or non-traditional women. This may be due to the fact that with the large percentage of Blacks, particularly, non-metro Blacks in the mixed sample (see Demography), these programs; career education, career orientation, job site visits, may not be as available to Black mixed women as they are to other groups; therefore, the only support available may be individual counseling which would account for its relatively greater influence.

Table 86. — Influence of counseling techniques on students who participated in counseling programs, by type of program

Counseling program	Student participants responding counseling was very important (percent)		
	Non-traditional	Mixed	Traditional
Career education	65.4	67.1	62.2
Career orientation	54.3	59.2	59.2
Job site visitation	47.8	52.3	49.0
Individual counseling	33.3	32.6	30.1
Industry representative	34.5	38.0	36.8
Group counseling --			
Mixed	31.1	22.8 *	18.9 **
Women only	7.9	22.8 **	14.7
Vocational testing	21.8	27.9 *	31.8 ***

Among the responses of mixed students who participated in counseling programs, three sets of responses fell between traditional and non-traditional: individual counseling, group counseling with men and women, and vocational testing. Mixed women participants were as high or slightly higher in their response to career education, career orientation, job site visitations, and industry representatives than traditional or non-traditional women, which reinforces the notion that these programs are probably not available to many Blacks. Although only 23% of the mixed women responded that group counseling, (women only) was influential this was markedly higher than non-traditional women (8%) or traditional women (15%).

E. Motivation

Although far and away the most important single motivating factor for all students is interest, interest as a motivation for mixed women (66%) is significantly lower than for traditional women (78%) or non-traditional women (74%).

Table 87. -- Importance of motivating factors to students selection of training

Motivation	Students responding motivation was very important (percent)		
	Non-traditional	Mixed	Traditional
Interest	73.5	66.2***	77.6*
Ability	50.9	50.7	59.1***
Working conditions	41.6	47.1**	51.6***
Earnings	41.9	49.2**	44.2

Another major difference in motivation for mixed women is that earnings as an influence is important to more mixed women (49%) than non-traditional women (42%) or traditional women (44%).

There is no response difference for mixed women to the importance of motivations whether they live in metropolitan or non-metropolitan areas, except for their response to earnings. Although the differential between the influence of earnings on metro and non-metro women is insignificant (2 percentage points), the influence of earnings on metro mixed women (50%) is greater than for metro non-traditional (44%) or traditional women (41%). The influence of earnings on non-metro mixed women (48%) is similar to that for traditional women (47%) but markedly different from non-traditional women (39%).

Table 88. -- Importance of earnings for metro and non-metro students

Area	Students responding motivation was very important (percent)		
	Non-traditional	Mixed	Traditional
Metro Non-metro	44.1 38.5 a,b	50.2 * 48.0 b**	41.3 47.1 a**

a**, b**

Interest as a motivating factor is lower for all Blacks in relation to Whites.

Table 89. -- Importance of motivating factors on students' selection of training, by race

Motivation and race	Students responding motivation was very important (percent)		
	Non-traditional	Mixed	Traditional
Ability			
White	51.5	51.2	60.3
Black	44.6	48.0	56.3
Interest			
White	75.5 a	68.1 b	79.2 c
Black	51.8 a	53.6 b	62.5 c
Earnings			
White	39.8 d	45.9 e	42.7 f
Black	57.8 d	71.2 e	56.3 f
Working conditions			
White	40.8	46.0	50.5
Black	51.2	52.8	60.9

a***, b***, c**, d***, e***, f*

It is earnings as an influence for Black mixed women that remains most unlike non-traditional and traditional women. It is the motivating factor important to the highest percentage of non-traditional and mixed Blacks, but as it influences mixed Black women it is the single motivating factor influencing such a large percentage of Black students. Earnings is as low or lower than any other factor on White women.

Interest as a motivating factor is less influential for mixed women than non-traditional or traditional women, no matter what their post-high school plans. Earnings is a greater influence on mixed women who plan to go to work after high school graduation, than on women with other post-high school plans.

Table 90. — Influence of motivations, by students' post-high school plans

Post-high school plans and motivation	Students responding motivation was very important (percent)			
	Interest	Ability	Earnings	Work Conditions
Non-traditional				
To work	74.9	53.9	45.9	43.5
Academic program	78.5	53.1	39.9	42.2
Vocational program	84.5	56.0	51.2	47.0
Other plans	70.9	49.6	33.1	35.4
Mixed				
To work	63.7 ***	51.3	55.2 **	49.1
Academic program	70.1 *	52.8	44.3	43.5
Vocational program	74.8 **	52.7	42.7	56.5
Other plans	59.2 ***	42.7	41.7	37.9
Traditional				
To work	78.0	61.4*	52.1	59.1***
Academic program	93.6***	75.2***	47.7	46.0
Vocational program	85.8	64.2*	45.1	55.6
Other plans	62.8	46.2	48.7**	37.2

F. Math and Science

Table 91. -- Years of math and science completed

Years completed	Students completing courses (percent)					
	Math			Science		
	Non-traditional	Mixed	Traditional	Non-traditional	Mixed	Traditional
Less than 1	9.2	7.2	10.9	11.3	9.5	11.6
Less than 2	31.3	32.9	27.4	42.0	41.1	37.7
Less than 3	36.5	37.7	36.1	30.0	36.3	33.6
3 or more	22.9	22.3	25.5	16.8	13.1	17.2

Sci/(Nt-T)*, (Nt-M)*

There are comparatively few differences in the number of years of math and science taken by the women in the non-traditional, mixed or traditional samples. All women take more math than science and take more of both than might have been expected. Sixty percent of all students take two or more years of math and 45% or more take two or more years of science.

Non-traditional, mixed and traditional non-metro women take more math than metro women. Metro mixed students take more science (48%) than traditional (35%) or non-traditional (44%) students in metro areas. Similar percentages of non-metro mixed and non-traditional women take two or more years of science (51%)--less than non-metro traditional women (56%).

Table 92. -- Years of math and science student completed, by metro and non-metro

Students completing courses and place of residence	Years completed (percent)					
	Math			Science		
	Less than 1	Less than 2	2 or more	Less than 1	Less than 2	2 or more
Non-traditional						
Metro	11.8	32.5	55.7	13.4	43.0	43.5
Non-metro	5.6	29.4	64.9	8.1	40.6	51.3
Mixed						
Metro	10.0	35.0	55.0	11.9	39.8	48.3
Non-metro	3.9	30.3	65.8	6.6	42.6	50.7
Traditional						
Metro	18.5	26.4	55.1	16.7	38.1	35.2
Non-metro	3.9	28.4	67.7	6.9	37.3	55.9

Math/(Nt)**, (M)***, (T)**; Sci/(Nt)**, (M)*, (T)***, Metro (Nt-T)**

G. Problems and Difficulties

Although a larger percentage of mixed (44%) than non-traditional women (35%) had no problems; 56% of mixed women had problems. A larger percentage of non-traditional women (37%), had two or more problems than mixed women (30%).

Table 93. -- Number of problems of students

Number of problems	Students responding "yes" or "somewhat" to problem statement	
	All students (n=1006) (percent)	Mixed students with problems (n=653) (percent)
0	35.1	43.7
1	27.5	25.6
2	19.0	12.9
3 or more	18.4	16.8

(Nt-M)***

Table 94. -- Number of problems of students having at least one problem

Number of problems	Percent of students with problems	
	Non-traditional	Mixed
1	42.9	47.1
2	29.2	23.0
3 or more	28.3	29.9

(Nt-M)*

Most women (88%) enrolled in mixed classes are in classes with more than six women, only 12% were in classes with less than six; only 5% were in classes with less than three other women. With so few mixed women in small classes, this was not a critical factor in reducing the number of problems for women in mixed classes as it was for women in non-traditional classes. (See Chapter VII.)

Of mixed students with problems, only one individual problem--Teachers Expect More of Women--had a higher incidence for mixed women than non-traditional women. Thirty-nine percent of all mixed women identified this as a problem, and 65% of all mixed women with problems named this as a problem. This issue is discussed for mixed women, as well as non-traditional women in the chapter on Problems and Difficulties. (See Chapter VII.)

Table 95. -- Specific problems of women in mixed and non-traditional training

Problem statement	Students responding "yes" or "somewhat" to problem statement			
	Percent of all students		Percent of students with problems	
	Mixed	Non-traditional	Mixed	Non-traditional
Men Had Difficulty Adjusting to Women	22.8[a]	30.7[a]	38.7	48.7
Teachers Expect Women to Perform at Higher Levels than Men	38.7[b]	28.6[b]	65.5	45.6
Men Are Better Prepared	10.7[c]	23.6[c]	18.0	39.2
Teachers Had Difficulty Adjusting to Women	12.4[d]	20.6[d]	21.2	32.9
Teachers Gave Men More Attention	20.7	20.5	35.0	32.3
Counselors Gave Men More Attention	11.9	12.5	20.1	19.8

a***, b***, c***, d***

The incidence of Teachers/Counselors Gave Men More Attention was similar among mixed and non-traditional women and apparently offered both groups comparatively few difficulties. Men Had Difficulty Adjusting to Women, Men Are Better Prepared, and Teachers had Difficulty Adjusting to Women were a Problem more often for non-traditional women than for mixed women.

Table 96. -- Problems of women in mixed training, by household income and race

Problem statement	Students responding "yes" or "somewhat" to problem statement (percent)			
	Household income		Race	
	$10,000	$10,000	White	Black
Men Had Difficulty Adjusting to Women	25.6[f]	17.6[f]	20.4[a]	37.3[a]
Teachers Expect Women to Perform at Higher Levels than Men	43.8[g]	32.6[g]	36.4[d]	53.0[d]
Men Are Better Prepared	15.7[h]	7.7[h]	9.7[e]	15.6[e]
Teachers Had Difficulty Adjusting to Women	14.1[i]	7.3[i]	10.8[b]	22.9[b]
Teachers Gave Men More Attention	25.6[j]	16.2[j]	19.9	25.2
Counselors Gave Men More Attention	14.4	10.2	10.5[c]	19.7[c]

a***, b***, c*, d***, e*, f*, g*, h*, i*, j*

In each case, mixed women with low income had difficulties more often than women with higher incomes, and Black students have difficulty more often in each problem area than White students. It is extraordinary that 53% of Black mixed women had difficulty with Teachers Expect More of Women (see Chapter VI).

Men Had More Science was somewhat more a problem for secondary women training for mixed occupations than for non-traditional women. Although proportionately more mixed women felt that Men Had More Technical Subjects (36%) than felt Men Had More Math (10%) or Science (13%), Men Had More Technical Subjects is a problem to only 14% of the mixed women. There was little difference between Black and White women or between metro and non-metro women; or women with low income versus moderate income as far as these issues were concerned.

Table 97. -- Problems related to men's comparative educational background

Problem statement	Students responding "yes" or "somewhat" to statement	
	Non-traditional	Mixed
Men had more science	8.2	13.2***
This was a problem	5.8	8.3
Men had more math	11.7	10.3
This was a problem	6.2	7.6
Men had more technical subjects	50.1	36.2***
This was a problem	22.1	13.8***

H. Employment

The percentage employed of mixed students fell between the percentage employed of non-traditional and traditional women. More mixed metro women were working (42%) than non-metro mixed women (31%), but fewer non-metro mixed were working than either non-metro non-traditional women (39%) or traditional women (43%). It may be in part a product of the non-metro labor market where there are limitations on time available to work due to required travel. However, since more traditional women (43%) and non-traditional women (39%) were working in non-metro areas than mixed women (31%), the differential is probably explained by the nature of mixed occupations. It is less likely that mixed women can readily obtain related training in non-metro areas, since business data processing occupations are more available in cities as are large retail companies, food store and restaurant chains who would be likely to hire women in mixed training.

Table 98. -- Student employment by place of residence

Location	Students employed (percent)		
	Non-traditional	Mixed	Traditional
Total	35.4	36.7	41.7^{***}
Metro	$33.3^{a,c}$	$41.5^{b,c}$	40.4^{*}
Non-metro	$38.7^{a,d}$	$31.1^{b,d}$	42.9

a*, b**, c**, d**

More upper income mixed women and mixed women whose mothers worked were themselves working--similar to non-traditional and traditional women. However, although a similar percentage of White mixed women worked as traditional and non-traditional women, and more White mixed women worked than Black mixed women, nonetheless, more Black women in mixed training worked (28%) than Black women in traditional (22%) or non-traditional training (20%).

Table 99. -- Student employment by race

Race	Students employed (percent)		
	Non-traditional	Mixed	Traditional
White	37.4	37.2	43.3
Black	20.0a	28.1a	21.9
a*	(Nt)**	(M)*	(T)**

More mixed women (42%) worked in jobs related to their training than traditional (37%) or non-traditional women (17%); and more mixed women were assisted to find their jobs (30%) by the school. The reasons the school

Table 100. — Relationship of job to training

Job is related to study	Students employed (percent)		
	Non-traditional	Mixed	Traditional
Yes	17.1	41.5	36.3
No	82.9	58.5	63.7

(Nt-T)***, (Nt-M)***

helped more mixed women to find a job was perhaps a result of the extensive distributive cooperative education programs which exist nationally. These programs are designed to provide students with related work, and the majority of them are mixed training programs. Although more mixed women were helped by the schools, (30%) compared to traditional (24%) and non-traditional (13%), the schools record for placement of mixed women in related jobs, although better than for non-traditional women, was not as successful as for traditional women. However, mixed women were better able to find related jobs on their own (29%) than traditional women (21%), or non-traditional women (10%), which suggests that had more effort been made, the schools might have achieved a better record of placing mixed women in related training.

Table 101. -- School assistance in job placement

School helped place student	Students employed (percent)		
	Non-traditional	Mixed	Traditional
Yes	13.4	29.7	23.8
No	86.6	70.3	76.2

(Nt-T)***, (Nt-M)***

We assume that, since more mixed metro women (41%) than mixed non-metro women (31%) were working, that a major share of those working in related occupations are living in metro areas.

Table 102. -- School assistance in job placement, by relationship of job to training

Job is related	School helped place student (percent)		
	Non-traditional	Mixed	Traditional
Yes	63.3	70.8	83.7 **
No	36.7	29.2	16.3
	School did not help place student (percent)		
Yes	10.1	29.3***	20.8 ***
No	89.9	70.7	79.2

I. Alternatives

Of the alternatives that mixed women considered, 33% examined other mixed occupations, but 47% considered traditional occupations, which is as large a percentage of women considering traditional occupations as an alternative as those in the traditional sample (47%). This was 16 percentage points more than the percentage of mixed women who considered another mixed occupation as an alternative. A comparatively small 21% of the mixed women considered non-traditional occupations.

Table 103. -- Occupational fields of alternatives considered by students

Alternative occupations considered	Students considering alternatives (percent)		
	Non-traditional	Mixed	Traditional
Professional and managerial	24.2	25.8	29.3
Technical	32.1	22.6	24.4
Clerical and sales	15.6	22.0	20.8
Skilled/semi-skilled	11.4	6.2	4.5
Services	16.8	23.5	21.0

(Nt-T)***, (Nt-M)***

Somewhat fewer mixed women considered technical occupations than either traditional or non-traditional women. Slightly more mixed women (22%) considered clerical occupations than traditional or non-traditional women. It is likely that some mixed women have moved from their original choice in the traditional occupations to similar occupations in mixed areas that offer broader opportunities, but the percentage of mixed women who expect to work in traditional occupations on graduation from high school is also very high (see Post-High School Plans, p. 140). With the high percentage of mixed women who considered clerical occupations, it would seem logical that many mixed women who had considered traditional business occupations then selected clerical occupations in the mixed category, since the mixed clerical occupations frequently pay higher salaries than similar traditional clerical positions, and the influence of earnings is an issue of particular importance to mixed women (see p. 129). Consideration of sales occupations is low (4%), although most such occupations are in the mixed classifications.

One-third of all women, non-traditional, mixed, and traditional considered a mixed course as an alternative. The largest group (36%) that considered such an alternative were women preparing for a traditional occupation.

Although the percent of women who considered a non-traditional occupation was larger than might have been expected (which suggests there is a growing interest in the non-traditional occupations), the alternative occupations in which an interest was clearly expressed were in the mixed occupations. Greater effectiveness in counseling techniques and greater availability of such programs at the secondary school level might encourage more women to consider such training.

J. Post-High School Plans

Slightly more mixed women (49%) planned to work on graduation from high school compared to non-traditional women (43%), and traditional women (47%). Slightly fewer (13%) planned to attend a postsecondary vocational technical program.

Table 104. -- Post-high school plans

Post-high school plans	Students responding (percent)		
	Non-traditional	Mixed	Traditional
To work	42.9	49.1	46.7
Academic	28.8	27.3	29.5
Vocational	16.2	13.1	16.1
Other plans	12.2	10.5	7.7

(Nt-T)**

Approximately the same percentage of mixed (27%), non-traditional (29%), and traditional (30%) women are planning to enroll in an academic postsecondary program on graduation from high school.

Fifty-four percent of mixed women whose mother had less than a high school education and 57% of mixed women whose father had less than a high school education plan to work, whereas only one quarter of the students whose

Table 105. -- Post-high school plans,by parents' education

Sample type and parents education	Students post-high school plans (percent)			
	To work	Academic program	Vocational program	Other plans
Mothers Education				
Non-traditional				
0-8	43.6	17.2	22.9	16.0
9-11	50.2	21.1	13.6	15.0
12	45.6	27.3	16.8	9.9
13-15	26.6	44.7	15.9	12.7
16 or more (Nt)***	18.8	61.3	16.3	3.8
Mixed				
0-8	53.8	16.3	12.6	17.6
9-11	53.6	23.9	10.0	12.6
12	48.7	27.1	14.5	9.7
13-15	43.6	37.6	15.3	3.6
16 or more (M)***	25.0	50.0	16.1	9.0
Traditional				
0-8	58.5	17.1	13.8	10.7
9-11	51.5	21.0	16.5	10.6
12	46.1	29.7	17.7	6.4
13-15	34.2	51.9	11.4	2.5
16 or more (T)***	24.2	59.1	12.1	4.5
Fathers Education				
Non-traditional				
0-8	44.0	22.7	22.0	11.4
9-11	49.7	17.4	18.8	14.1
12	45.5	27.1	13.6	13.9
13-15	28.2	44.1	17.7	9.3
16 or more (Nt)***	24.5	57.6	11.8	5.9
Mixed				
0-8	62.1	16.4	10.7	10.7
9-11	54.7	21.9	10.4	12.9
12	49.1	27.3	13.9	9.5
13-15	34.6	41.1	18.0	6.4
16 or more (M)***	26.8	50.0	16.3	7.0
Traditional				
0-8	58.4	14.3	17.3	10.1
9-11	50.0	23.7	18.2	8.1
12	43.4	33.0	17.2	6.3
13-15	38.9	40.0	15.5	5.5
16 or more (T)***	37.1	51.5	7.2	4.1

mother or father was a college graduate planned to go directly to work. Fifty percent of all women vocational education students whose parents were college graduates plan to undertake a postsecondary academic program, compared to less than 20% of those whose mother or father had less than a high school education; this was, however, markedly less than non-traditional students (61%) or traditional students (59%) whose mothers had graduated from college (see Table 105).

Among women who plan to work, less than one-third (32%) plan to seek a mixed job compared to 79% of traditional women seeking traditional jobs, and 52% of non-traditional women seeking non-traditional jobs.

Table 106. -- Jobs sought by students planning to work after high school

Type of job sought	Students seeking jobs (percent)		
	Non-traditional	Mixed	Traditional
Non-traditional	51.8	12.1	5.7
Mixed	11.9	31.9	6.8
Traditional	17.5	42.9	79.1
Undetermined	18.0	12.8	7.7

(Nt-T)*** (Nt-M)***

More mixed women are planning to work in traditional occupations (43%) than are planning to work in mixed occupations (32%). Even if all mixed women who have not determined the area in which they plan to work were to select mixed occupations, a bare 45% of the mixed women are likely to select mixed occupations for post-high school employment. This compares to a potential 70% of the non-traditional women who would select non-traditional occupations; and 88% of the traditional women who would select traditional occupations.

This is not true, however, of the mixed women who plan to enter postsecondary vocational education. Like the non-traditional women, 89% of the mixed women planning to enter postsecondary vocational education will enter training related to their secondary school training. This compares to only 77% of the traditional women entering postsecondary vocational training.

Table 107. -- Relationship of planned postsecondary training to present training for students planning to enter a postsecondary vocational program

Postsecondary training planned	Students planning to enter a postsecondary vocational program (percent)		
	Non-traditional	Mixed	Traditional
Related	88.1	89.5	76.7*
Unrelated	11.9	10.5	23.3

Having thus specified the mixed women as a unique group among women in vocational education, further research is now necessary both to better understand their high school and related post-high school decision-making, and to determine the potential for growth of the mixed occupations to absorb an expansion of women who are moving away from traditional jobs.

Appendices

Appendix A.-- Demographic Characteristics of Students

Appendix A. -- Demographic Characteristics of Students

The demographic characteristics of the students in the non-traditional, mixed and traditional samples include geographic distribution, 1/ racial distribution, household income, father's occupation and education, mother's employment status, mother's occupation and education, and number of years mother had worked. (See Questionnaire, Appendix E).

There are only slight differences in the demographic characteristics of the non-traditional, mixed, and traditional students. The only major difference in the variables tested was the geographic location of students between the metro and non-metro areas. Variables such as racial/ethnic group, regional distribution, mother's and father's occupation, mother's work history and employment status, and mother's and father's education generally proved to be similar for non-traditional, mixed and traditional students.

1. Geographic Location

The non-traditional women tend to be concentrated much more heavily in the metro areas. Sixty-one percent of non-traditional women but only

Table A1. -- Metropolitan location of students

Area	Women students in each area (percent)		
	Non-traditional	Mixed	Traditional
Metropolitan	60.7	54.2	49.3
Non-metroplitan	39.3	45.8	50.7

(Nt-M)** (Nt-T)***

1/ The eight states represented in the sample from the West include: Arizona, Colorado, Hawaii, Montana, Nevada, New Mexico, Utah, and Washington.

The eleven states represented in the sample from the South include: Alabama, Florida, Georgia, Kentucky, Maryland, Mississippi, Oklahoma, South Carolina, Texas, Virginia, and West Virginia.

The eight states represented in the North Central sample include: Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, and Ohio.

The nine states represented in the Northeast sample include: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

49% of traditional and 54% of mixed women students lived in such areas. These data understate somewhat the metropolitan concentration since many of the large central city school districts did not participate in the study. 1/

The regional distribution shows its heaviest concentration of students in the Northeast. The mixed sample is more concentrated in the Northeast than the traditional or non-traditional samples. The small percentage of students from the West Coast is due, in part, to the small number of Area Vocational Technical Schools at the secondary level in California.

Table A2. -- Regional location of students

Region	Women students in each region (percent)		
	Non-traditional	Mixed	Traditional
Northeast	32.1	38.6 **	32.4
North Central	27.7	25.8	29.0
South	28.8	25.8	29.2
West	11.3	9.9	9.4

(Nt-M)*

2. Racial Characteristics

The racial/ethnic distribution of the traditional and non-traditional students is 89% White, and 11% Black and other minorities. Non-traditional students have a higher percentage of Black students than traditional students, but this is not statistically significant, and thus the non-traditional and traditional racial distributions are considered the same. On the other hand, there are proportionately fewer Whites and more Blacks in the mixed sample.

Table A3. -- Racial distribution of students

Racial/ethnic group	Students in each racial/ethnic group (percent)		
	Non-traditional	Mixed	Traditional
White	89.3	82.8	89.5
Black	8.0	12.9 ***	6.4
Hispanic	1.6	1.7	2.2
Asian	0.3	1.2	1.1
Indian	0.9	1.3	0.8

(Nt-M)***

1/ See Methodology.

The racial/ethnic distribution of the students is different when place of residence is taken into consideration. A larger percentage of students are Black in the non-metro areas than in the metro areas. 1/ This is true for both the non-traditional and traditional student samples; the mixed sample has the same percentage of Blacks in non-metro areas as the non-traditional sample; the metro mixed sample has proportionately more Blacks than the traditional or non-traditional sample.

Table A4. -- Racial distribution of metro and non-metro students

Racial/ethnic group	Students in each racial/ethnic group					
	Non-traditional		Mixed		Traditional	
	Metro	Non-metro	Metro	Non-metro	Metro	Non-metro
White	90.5	87.3	81.5	84.5	91.0	88.1
Black	5.7[a]	11.5	14.0[a]	11.5	4.5	8.2
Other Minority#	3.8	1.2	4.5	4.0	4.5	3.8

a*** (Nt)*** (M)** T***

#Includes Hispanic, Asian, American Indian, and Alaskan Native.

3. Characteristics of Parents

Again the differences between non-traditional, mixed and traditional students are quite small and these differences should not be emphasized. We cite them here to provide background for the remainder of the report.

Mothers Work History

A slightly larger percentage of mothers of non-traditional women are working at present. Fifty-two percent of mothers of non-traditional students, 50% of mothers of mixed and 47% of mothers of traditional students are presently employed.

If we look at the total sample, there is little difference in the number of years the students' mothers have worked during their lifetimes. However, looking at the data by place of residence, there are some differences. For women in metropolitan areas 17% - 20% of the mothers have never worked; 49% - 55% of mothers have worked 1-9 years, and the remainder (30%) have worked

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1/ This is largely due to the number of Black students in the non-metro areas of the South (see Methodology).

more than ten years. This is true for mothers of non-traditional, mixed and traditional students.

Table A5. -- Mothers work history, by place of residents

Years of working	Metro and non-metro students' mothers (percent)					
	Non-traditional		Mixed		Traditional	
	Metro	Non-metro	Metro	Non-metro	Metro	Non-metro
Never	18.9	17.4	19.2	20.2	17.4	23.0
Under 5	25.9	18.2	22.4	25.2	25.7	20.3
5 - 9	24.3	27.4	26.1	22.7	28.3	21.1
10 - 14	17.9	13.9	17.4	15.2	13.2	17.1
15 or more	13.0	23.1	14.9	16.6	15.4	18.5

Non-metro (Nt-M)*, (Nt)***, Non-metro (Nt-T)*, (T)**

In non-metro areas, however, the mother's work history is somewhat different from the metro mothers, and the work history of mothers of traditional and non-traditional students is different. Mixed, non-metro students' mothers working patterns resemble traditional women. For non-traditional and traditional students, proportionately more non-metro mothers have worked ten or more years. Additionally, among non-metro mothers proportionately more mothers of traditional students' never worked.

Mothers Occupation and Education

There are no statistically significant differences in the occupations of non-traditional, mixed and traditional students' mothers. Thirteen to 16% are professional, technical, or managerial workers, 23-26% are clerical or sales, 2-3% are skilled workers, and 31-33% are laborers, service, or semi-skilled workers.

Data on mothers education show 37-39% of the mothers had less than a high school education (42% of the mixed), 46-47% had a high school education (39% of the mixed), and 15-17% had some college. There is no significant difference between the non-traditional and traditional groups. Mixed have proportionately more mothers with less education than the other two groups, although the difference is not significant.

Fathers

There is virtually no difference in the occupational distribution of fathers of non-traditional, mixed, and traditional students. Approximately 30% of the fathers of each group are white collar workers and one-third are skilled workers. The remaining 30% are semi-skilled workers, laborers, service workers, or agricultural managers or laborers.

Proportionately more fathers of non-traditional students (23%) have some college education than do fathers of traditional students (19%) or mixed students (17%). Although the difference is significant, it is slight.

Table A6. -- Fathers education

Years of school completed	Students' fathers (percent)		
	Non-traditional	Mixed	Traditional
0 - 8	14.9	14.8	17.2
9 - 11	27.2	29.2	26.5
12	34.5	38.5	37.3
13 - 15	11.7	8.3	9.1
16 or more	11.7	9.1	9.9

(Nt-M)*

4. Household Income

Reported household income of the three sample groups is nearly identical.

Table A7. -- Household income

Income	Students' households (percent)		
	Non-traditional	Mixed	Traditional
$0 - 5,000	5.4	4.8	5.7
$5,001 - 10,000	11.7	12.8	12.7
$10,001 - 15,000	16.3	14.2	16.0
$15,001 - 20,000	12.4	12.2	11.5
$20,001 or more	10.7	8.3	9.5
Don't know	43.6	47.7	44.6

In summary, the only major demographic differences between the non-traditional, mixed and traditional students are the geographic concentrations of non-traditional women in the metro areas; and of mixed women in the Northeast; and the greater concentration of Blacks in the mixed sample. The fact that more mothers of non-traditional women work may be, in part, a result of fewer jobs and childcare services being available to the mothers of traditional women, who are more concentrated in non-metro areas. However, if non-metro mothers, only, are compared, mothers work history also indicates that proportionately more mothers of traditional women in these areas have never worked. These differences in parents' characteristics, however, are not large.

Appendix B.-- Educational Personnel

Appendix B. -- Educational Personnel

In the second stage of our project, educational personnel were surveyed. These persons had been named by non-traditional women students as having been very influential in their decision to enroll in training for a non-traditional occupation. Twenty-nine percent of the non-traditional students responded with names of educational personnel whom they considered were very influential; 135 of these persons responded to our survey.

The survey of the educational personnel was conducted to acquire information about the counseling methods, programs, and materials which the educators had successfully used to encourage women to enter non-traditional training. Questions were asked about the educational personnel's positions and demographic characteristics in order to obtain a profile of those educational personnel who had been able to influence women to enroll in non-traditional programs. Questions matching those asked of the students concerning the usefulness of particular counseling techniques, persons whom they think influence the students and the motivations of women entering non-traditional training were also included. Data from the educational personnel are incorporated in the chapters in the text, as appropriate. (See Influentials, Counseling Techniques, Post-high School Plans, and Employment.)

1. Demography of Educational Personnel

Of the 135 educational personnel who responded, there were more teachers (72) than counselors (54), and more men (92) than women (43).

Table B1. --Characteristics of the educational personnel

Title	Educational personnel (percent)		
	Total	Men	Women
Total	100.0	68.1	31.9
Counselors	40.0	38.0	44.2
Teachers	53.3	53.3	53.5
Other	6.7	8.7	2.3
	Educational personnel (number)		
	Total	Men	Women
Total	135	92	43
Counselors	9	35	19
Teachers	72	49	23
Other	54	8	1

The courses taught by the teachers among our respondents were:

Table B2. -- Teaching areas of educational personnel

Teaching area	Educational personnel (percent)	
	Men	Women
Total	100.0	99.9
Vocational education	85.7	39.1
Art	6.1	13.0
Other academic (including math/science)	8.2	47.8
Teaching area	Educational personnel (number)	
	Men	Women
Total	49	23
Vocational education	42	9
Art	3	3
Other academic (including math/science)	4	11

The educational personnel who responded (see Table B1) represent a proportionately larger percentage of teachers than counselors, men and women, and vocational teachers than academic teachers. Data from Chapter III, Influentials, indicates that counselors were more influential than teachers and students were likely to have named more counselors than teachers (see p. 47). Thus the higher response of vocational teachers would indicate that there is a greater reservoir of interest on this issue among teachers, particularly vocational education teachers, than among any other group save for the other administrative and supervisory educational personnel.

The racial distribution of the educational personnel was 129 White, 4 Black, and 1 Asian American. The percentage of minorities among educational personnel (3.7%) was significantly lower than the percentage of minorities among non-traditional students (6.7%).

2. Work History

More than half (57%) of the personnel have been in the educational system for 10 years or longer, and almost that many (50%) have been in their present position for more than five years. The experience of influential teachers is similar to the experience of all secondary school teachers. 1/ Thus, we can deduce that influential educational personnel are those who are experienced rather than recent entrants into the system.

Table B3. --Work history of educational personnel

Educational personnel	Years in educational setting				Years in present job			
	Less than 3 years	3 - 5 years	6 - 10 years	Over 10 years	Less than 3 years	3 - 5 years	6 - 10 years	Over 10 years
Total	7.6	16.8	18.3	57.3	15.6	34.8	20.7	28.9
Counselors	2.0	7.8	13.7	76.5	13.0	35.2	22.2	29.6
Teachers	11.3	22.5	21.3	45.0	17.0	34.6	19.8	28.4

1/ Vocational Education: Characteristics of Students and Staff, 1972, National Center for Educational Statistics. Data indicate that among all vocational teachers nationally, 30.7% have 0-5 years experience, 23.9% have 6-10 years experience, and 44.1% have more than 10 years teaching experience.

Academically, the majority of the educational personnel hold advanced degrees; 64.4% of all personnel hold masters, 2.2% Ph.D.'s and 27% bachelors degrees; 6.7% of the educators have less than a four-year degree. This is a remarkably higher percentage of vocational teachers holding advanced degrees than is true nationally, indicating a correlation between education degrees and the ability to influence students.

Table B4.-- College degrees held by educational personnel

Personnel	Total	Less than BA	Educational Personnel with degrees		
			BA	MA	Ph.D.
All personnel	135	9	36	87	3
Counselors	54	0	3	50	1
Vocational education teachers	51	8	22	21	0
Teachers other than vocational education	21	0	9	11	1
Educational personnel other than teachers or counselors	9	1	2	5	1
	-- (percent) --				
All personnel		6.7	26.7	64.4	2.2
Counselors		0.0	5.6	92.6	1.9
Vocational education teachers		15.7	43.1	41.2	0.0

Eighty percent of the counselors hold a degree in counseling, and 69% of the vocational educators hold a degree in vocational education. Among our respondents, there was one woman teacher who teaches building trades.

Table B5.-- Type of degree held by counselors and vocational teachers

Personnel	Total	Less than BA	Educational Personnel with degrees			Percent of total
			BA	MA	Ph.D.	
Counselors						
Degrees in counseling	43	0	1	41	1	79.6
Degree in other	11	0	2	9	0	20.4
Vocational education teachers						
Degree in vocational education	35	-	18	17	0	68.6
Degree in other	8	-	4	4	0	15.7
No degree	8	8	--	--	-	15.7

3. Location

Geographically, 31% of the school personnel were from the northeast, and another 31% from the north central; 27% were from the south, and 11% were from the west.

Table B6.-- Geographic distribution of educational personnel

Students and educational personnel	Regional location (percent)			
	South	Northeast	North Central	West
Non-traditional students	28.8	32.1	27.7	11.3
All personnel	27.3	31.1	31.1	10.6

The geographic distribution of all personnel was very close to the geographic distribution of the students.

Appendix C -- Methodology

Our universe is defined as that of all women in secondary vocational education who are preparing for work or for entry into postsecondary vocational education after graduation. In order to sample from this group, we included only those persons attending secondary Area Vocational Technical Schools in our sampling frame. These schools have the express purpose of preparing students for work or further vocational education. Vocational departments at comprehensive high schools not only prepare students for work and postsecondary vocational education, but also enroll students in their vocational courses who wish only to obtain a particular skill (e.g., typing) for personal reasons rather than to prepare for work in that occupation.

From the Directory of Area Vocational Education Schools, Fiscal Year 1975, 1/ the names and addresses of approximately 1,400 AVTS nationally were obtained. Letters were mailed to these schools requesting their participation in our study. These letters explained briefly the importance of the study, the type of information we expected to obtain, and the methodology we would use to collect the data. After the second mailing of the request letter, approximately 218 schools from 40 states had indicated their willingness to participate in our study and designated a person to distribute the survey instruments.

Since women in non-traditional training are few in number, they occur in any school or course sporadically over time. In any given semester a school might have one or two or no women who want to take a non-traditional course, e.g., carpentry or auto mechanics. Therefore, in order to maximize the number of non-traditional women to be contacted, it was necessary to request current enrollment data for non-traditional women.

Although women participate in mixed courses more consistently from one semester to the next, most schools do not teach more than three or four of the 19 mixed programs. Since we were able to determine from the OCR data only a

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1/ Directory of Area Vocational Education Schools, Fiscal Year 1975, Bureau of Occupational and Adult Education, Office of Education, DHEW.

partial list of the locations of the mixed training offered in our participating schools, we also requested enrollment data from the schools for women in mixed courses.

One hundred and seventy-two schools returned enrollment sheets containing data on the approximate number of women in non-traditional and mixed courses.

1. Course Selection

From the enrollment data provided by the schools, we were able to locate approximately 3,600 non-traditional students. Schools were provided survey instruments for every non-traditional woman listed on their enrollment sheet.

Schools listed many more women in mixed courses than were needed for our sample. We, therefore, selected randomly up to three courses from each school and provided instruments for distribution among the women students in proportion to their representation in each of these courses in the school.

The traditional courses were split into two groups. Group 1 included courses which, like those in the mixed sample, have relatively low national enrollment and are difficult to locate since they are not taught at every or even most schools. The second group of courses were the four which enroll 32% of all traditional students and one or two of these are taught at nearly every school. These courses include filing, stenographic and secretarial occupations, practical nursing, and cosmetology.

In order to select students from the first group, we used the available OCR data base 1/ and selected up to two course offerings randomly from each school where the OCR data were available. From a random selection of the remainder of the schools, we asked that the schools distribute 20 questionnaires to one of the four programs in group 2.

1/ In 1974, the Office for Civil Rights conducted a survey of Area Vocational Technical Schools requesting enrollment data by race and sex for each vocational program included in the US Office of Education Vocational Education Classification.

Packets of questionnaires with the appropriate number of non-traditional, mixed, and traditional survey instruments were sent to each school. Survey instruments were color coded to aid in distribution and eventually computer coding. Instructions for distribution specific to each school were included in each packet. All questionnaires contained a business reply envelope, enabling students to return their own response separately. A geographic code number was attached to each form so it could be identified as metropolitan or non-metropolitan residence and its regional location could be specified.

2. Follow-Up

Six weeks after the questionnaires were mailed, schools which appeared not to have distributed their questionnaires were contacted. They were urged to distribute the questionnaires, at the earliest possible time.

There were 1,543 forms returned from non-traditional women, 2,489 from mixed women, and 1,664 from traditional women. These forms were logged and coded for computer entry; 1,062 non-traditional forms were useable and were computerized; 1,006 useable mixed forms and 1,019 useable traditional forms were selected randomly from the returns for computer entry.

3. Response

From among the 172 schools who indicated a willingness to participate and had women students in non-traditional occupations , students from 150 schools returned completed survey forms. The distribution of schools included a fairly equal distribution of metropolitan schools among the regions but a very large sample from the South in the non-metropolitan areas.

Table C1. -- Regional distribution of schools

Region	Schools (percent)		
	Total	Metro	Non-metro
Total	100.0	100.0	100.0
Northeast	25.3	29.6	21.5
North Central	22.7	26.8	19.0
South	39.3	23.9	53.2
West	12.7	19.7	6.3
	-- (number) --		
Total	150	71	79
Northeast	38	21	17
North Central	34	19	15
South	59	17	42
West	19	14	5

The response of students in the traditional and non-traditional samples are similar. Approximately 32% of the students were located in the Northeast, 28% in the North Central, 29% in the South and 9-11% in the West. A larger percentage of women in the mixed sample (39%) were located in the Northeast region.

Table C2. -- Regional distribution of the students

Region	Students (percent)		
	Non-traditional	Mixed	Traditional
Northeast	32.1	38.6	32.4
North Central	27.7	25.8	28.9
South	28.8	25.8	29.1
West	11.3	9.9	9.4
	-- (number) --		
Northeast	341	388	330
North Central	294	259	295
South	306	259	297
West	120	99	96

4. Distribution Among Courses

Data from the OCR survey specified 116 vocational programs nationally with enrollments of 50 or more women students in 1974. Our survey includes data from all but 19 of these courses. Tables D-6, 7, 8 in Appendix D list the courses and the number of women in the sample in each course.

Table D-9 also indicates the number of women in each broad classification. In the non-traditional sample there are proportionately more women in trade and industrial programs and fewer in agricultural programs compared to the OCR sample of 1974.

This is surprising since our sample is biased toward the non-metro areas where we would expect more non-traditional women to be entering the agricultural occupations. Analysis of the demographic data indicate that women in metro areas are much more eager to enter the non-traditional programs than are women in the non-metro areas. Trade and industrial programs would be more available to these women. This difference, therefore, may be a reflection of metropolitan women entering trade and industrial courses.

In the OCR sample of secondary AVTS from 1974, among non-traditional women 40% were in masculine training and 60% in neutral training. Forty-six percent of the women students were enrolled in classes where 0-10% of the students nationally were women, and 54% of the women were in classes where 10.1-25% of the students nationally are women.

Table C3. -- Masculine and neutral non-traditional students, current sample data and OCR sample data

Training	Sample Comparison			
	Number of courses		Percent of students	
	Current sample	OCR sample	Current sample	OCR sample
Masculine, 0-10% women	28	33	20.8	24.6
Neutral, 0-10% women	11	11	26.7	21.4
Masculine, 10.1-25% women	4	4	14.4	15.4
Neutral, 10.1-25% women	3	7	38.2	38.5

Our current sample matched this quite well with only a slightly larger percentage of women in neutral 0-10% enrollment courses.

In the mixed sample there are proportionately fewer women in trade and industrial programs than there were in the OCR sample; the two larger programs in this classification are Commercial Arts and Quantity Food Occupations.

The distribution of students in Rj sample for traditional women is similar to that in the OCR sample.

5. Educational Personnel Survey

In the second stage of our survey, we contacted educational personnel named by the non-traditional students as influential in their decision to enroll in their present training programs.

As responses from the women students were received, names and addresses were catalogued and coded (for tracking responses), and a questionnaire was mailed to the school personnel. The questionnaire contained a cover letter explaining the objectives of the study and how the individual had been selected for the survey. (See Educational Personnel Questionnaire, Appendix E.)

Students named 414 school personnel. Three to four weeks after the initial mailing, if no response had been received, a reminder letter was sent to educational personnel repeating our request for information.

One hundred thirty-five useable returns were received from the secondary school personnel. Five additional forms were returned that were incomplete, or late and, therefore, were not useable. Responses from the school personnel were hand tabulated.

6. Data Analysis

The data analysis was designed to test a set of hypotheses, most of which were derived from the results of our study of postsecondary non-traditional women; other hypotheses were derived from other previous educational and sociodemographic research, and still others were new ideas formulated by the research team. Most hypotheses were stated in the form of the expected differences between the sample groups.

Data are presented in summary form. For each difference between the non-traditional and traditional groups which was shown to be significant, brief summary tables for the non-traditional and traditional samples are placed within the body of the chapter. More detailed back-up tables for each chapter showing the raw sample data and percent distributions for all groups; non-traditional, mixed, and traditional are available for inspection at Rj Associates. These tables are not printed this year due to lack of demand for the extensive tables assembled for the previous study. Summary tables in the mixed chapter include data from all three samples.

Straight counts of students responses to each variables with 3 or more optional responses were tested for validity of the hypothesis (through rejection of the null hypothesis) using the chi square statistic. Those with less than 3 response options, were tested to determine if the difference between two proportions was significant. The standardized normal variable used to test for significance was:

$$z = \frac{\frac{X_1}{N_1} - \frac{X_2}{N_2}}{\sqrt{\left(1/N_1 + 1/N_2\right) P(1-P)}}$$

X_1 = occurrence in sample 1

N_1 = size of sample 1

$$P = \frac{X_1 + X_2}{N_1 + N_2}$$

When two variables are cross-tabulated, the results for each sample group shown in a single contingency table were tested by using the X^2. Since it was not possible to compare contingency tables or X^2 statistics among sample groups, the test for the difference between two proportions was utilized. For example, we could not test directly whether there was a greater differential in fathers occupational distribution among non-traditional students with particular post-high school plans than among groups of traditional students with similar plans. However, we could test for differences in the proportions of fathers in a particular occupational status between non-traditional and traditional students, e.g., who plan to work after school. We could test, for example, to see whether there was a significantly higher proportion of students whose fathers were blue collar workers in the non-traditional than the traditional sample.

Furthermore, using this test for the difference between two proportions, we could test whether there was a difference in a particular response for one group with specific plans compared to all other groups or between two groups with different plans. Often, the entire distribution was not significantly different, but the difference between particular groups within the distribution was significant. As an example, difference in post-high school plans tested against the distribution of parents education might not be significant for the entire distribution, but the variable might be significantly different for parents with 13 or more years of school. This difference might occur between non-traditional women whose parents have 13 or more years of school and those who have less; it might also occur between non-traditional and traditional students whose parents have 13 or more years of school.

Data comparing non-traditional and traditional samples and non-traditional and mixed samples were tested for X^2 significance. Data for educational personnel were not so tested.

7. Central City Representation

Although an effort was made to obtain a nationally representative sample of vocational schools, large central cities are underrepresented. Many school districts in these areas have a clearance policy for research studies in order for research to be conducted in their districts. This involves completing extensive forms, several weeks of clearance time, and frequently the requirement of actually visiting the district. Although completion of this task is not impossible, based on our past experience with postsecondary AVTS, we had expected the same cooperation from the major cities that we had received from the postsecondary institutions. We were, therefore, not prepared to accomodate the additional requirements to gain their cooperation within our budget. Unfortunately, there is no federal support system to obtain access to the local schools to encourage their participation in national federally-sponsored research. The end result is that students in the large city schools are substantially underrepresented and students in the non-metropolitan areas are somewhat overrepresented in our sample. To the extent that there are differences between central city vocational students and non-metropolitan students our entire sample is biased.

8. Participation of Black Women Students

Data from our sample indicate that Black women are entering mixed and non-traditional training at a much faster rate than are White women students; but that Black women students are not entering vocational education at a disproportionate rate. Analysis of our sample data compared to the actual national population distribution reflects the absence of central city data in our survey. Since in the Northeast, North Central, and West regions, Blacks live predominantly in the major cities, our sample of metro data represents a lower percentage of Blacks in vocational education than is true for these areas. However, the percentage of Black women in mixed training in metro areas of the South and North Central regions and the percentage of Black women in non-traditional training in the metro areas of the South exceeds the percentage of Blacks in the entire population.

In non-metro areas in the Northeast, North Central, and West regions, less than 2% of the population is Black and this was reflected in our sample. In the South, however, Blacks are 19% of the non-metro population and Black women represent 18% of the sample of traditional women, 30% of the mixed and 29% of the non-traditional women. This represents 50% more Black women in non-traditional and mixed courses than in traditional courses or than Blacks in the entire population of the South.

Since the percentage of women in traditional training represents the majority of all women vocational students, and since the percentage of traditional Black women in each region does not exceed the percentage in the total population, we conclude that Black women are not over represented in vocational education courses. The data indicate that students electing to enter vocational training does not occur more often among Black students.

Table C4. -- Population and sample data by race and region

Population Distribution				
Region	Metro		Non-metro	
	White	Black	White	Black
Northeast	89.5	10.5	98.3	1.7
North Central	88.5	11.5	98.5	1.5
South	80.9	19.1	80.9	19.1
West	88.0	12.0	98.9	1.1
Sample Distribution				
Region	Metro		Non-metro	
	White	Black	White	Black
Northeast				
Non-traditional	97.4	2.6	100.0	0.0
Mixed	97.1	2.9	99.4	0.6
Traditional	95.9	4.1	100.0	0.0
North Central				
Non-traditional	97.2	2.8	100.0	0.0
Mixed	83.3	16.7	98.9	1.1
Traditional	96.2	3.8	97.5	2.5
South				
Non-traditional	83.6	16.4	70.6	29.4
Mixed	53.2	46.8	69.9	30.1
Traditional	90.8	9.2	82.3	17.7
West				
Non-traditional	96.6	3.4	100.0	--
Mixed	90.6	9.4	100.0	--
Traditional	96.9	3.1	100.0	--

9. Expansion of Women in Non-traditional Occupations

Table C5.-- Students in each grade

Grade	Students (percent)		
	Non-traditional	Mixed	Traditional
9th/10th	18.4	9.3	7.8
11th	44.8	45.5	37.7
12th	36.8	45.2	54.5

Examination of the percentage of students by grade across each type of training indicates that a larger percentage of the non-traditional students are in the 9th and 10th grades than those in the mixed or traditional sample. Eighteen percent of the non-traditional students are in the 9th and 10th grades compared to only 8% of the traditional and 9% of the mixed students. Perhaps even more important, 25% of the masculine sample but only 14% of the neutral sample were in the 9th and 10th grades.

Table C6. -- Students in masculine and neutral training, by grade

Grade	Students in non-traditional training (percent)	
	Masculine	Neutral
9 - 10	25.3	13.8
11	43.5	46.6
12	31.2	39.6

Although some of this difference could be attributed to the sampling design of this study, further examination of the data would strongly indicate that there is a rise of the number of women entering non-traditional training.

Since we used a stratified sample, we cannot estimate the total number or percentage of non-traditional women by extending the data; nontheless, it would appear that among programs designed to prepare women to seek a job, there was an expansion of enrollment for masculine non-traditional women from previous years.

A further piece of information which supports our belief that there is a true expansion of women in non-traditional training is that there is a larger number of women from the 156 schools in our sample in 1977 than there were non-traditional women in the same schools in the OCR/AVTS study in 1974. The number of women specified by educational personnel to be enrolled in non-traditional courses in 1974 was approximately 4,800 women. In our sample of non-traditional women from 156 schools in 1977, we were able to collect over 1,000 survey forms. Considering the number of schools involved, and the response rate to a mail survey, this would indicate a considerably larger universe of women than existed in 1974. (See Appendix D for a list of students and courses in each sample.)

Information was analyzed from a recent survey of all women in vocational education: in secondary and postsecondary programs, and in comprehensive high schools as well as specialized vocational technical schools. 1/ Although these data indicate a large expansion of women in non-traditional programs, they also indicate an equally large expansion of women in traditional and mixed programs. Therefore, this would indicate an expansion of all women in vocational education but not a relatively larger increase of women in non-traditional occupations.

1/ Office of Education, DHEW, Enrollment in Vocational Education, 1976, unpublished data.

Appendix D. -- Reference Tables

Table D-1. -- Non-traditional vocational training programs, by detailed classification, by percent of students in the training nationally that are women: Office of Civil Rights sample of selected secondary AVTS, United States, 1974

Training Programs	Percent Women	Number of Women Enrolled
Insurance	25.0	1
Other, Trade and Industrial	25.0	1,233
Industrial Atomic Energy	25.0	14
Graphic Arts	20.9	1,359
Law Enforcement Training	19.4	31
Agricultural, Other	19.2	380
Barber	18.0	28
Agricultural Products	17.2	46
Upholstery	16.6	55
Agricultural Supplies/Services	15.7	120
Agricultural Products	15.2	577
Wholesale, Other	13.2	7
Miscellaneous Tech.	10.2	11
Blueprint Reading	8.3	5
Drafting Occupations	8.1	810
Electronic Technology	6.3	188
Agricultural Resources	5.9	44
Mechanical Technology	5.8	23
Architectural Technology	5.8	24
Forestry	5.2	43
Civil Technology	3.3	10
Custodial Services	2.8	27
Fabric Maintenance Services	2.5	7
Auto Specialization Repair	1.9	16
Radio and Television Repair	1.7	62
Business Machine Maintenance	1.2	3
Electrical Technology	1.1	13
Electronic Occupations	1.0	64
Automotive Sales	1.0	3
Instrumentation Technology	.9	1
Agricultural Mechanics	.8	30
Woodworking Occupations	0.6	13
Machine Shop	0.6	66
Machine Tools	0.5	6
Diesel Mechanics	0.5	6
Carpentry Construction	0.4	70
Automotive Mechanics	0.4	112
Electrical Occup.	0.4	53
Appliance Repair	0.3	6
Tool and Die Making	0.3	1
Automotive Services, Other	0.2	4
Construct/Maintenance, Other	0.2	5

Table D-1. (Cont'd)

Training Programs	Percent Women	Number of Women Enrolled
Small Engine Repair	0.1	3
Air Conditioning	0.1	7
Body and Fender Repair	0.1	14
Welding and Cutting	0.1	9
Metalworking Occupations	.1	3
Plumbing and Pipefitting	0.1	3
Masonry	0.1	4
Heavy Equipment	0.0	--
Automotive Tech.	0.0	--
Aircraft Maintenance	0.0	--
Plastering	0.0	--
Environmental Control	0.0	--
Refrigeration	0.0	--
Stationery Energy Sources	0.0	--
Maritime Occupations	0.0	--
Commercial Fishery Occup.	0.0	--
Aeronautical Tech.	0.0	--
Elec[illegible] Mechanical Technology	0.0	--
Leat[illegible]working	0.0	--

Table D-2. -- Mixed vocational training programs, by detailed classification, by percent of students in the training nationally that are women: Office of Civil Rights sample of selected secondary AVTS, United States, 1974

Training Programs	Percent Women	Number of Women Enrolled
Business Data Processing	72.2	5,291
Office Supervisory and Admin.	67.8	217
Family Relations	66.4	344
Food Management	66.3	3,186
Dental Lab Technician	65.5	116
Distributive Education, Other	65.2	3,866
General Merchandising	62.9	1,365
Hotel and Lodging	62.3	129
Apparel and Accessories	61.0	232
Scientific Data Processing	60.8	1,097
Food Services	58.2	1,072
Commercial Arts Occupations	50.6	2,252
Quantity Foods	49.4	1,965
Ornamental Horticulture	38.6	1,699
Food Distribution	37.7	143
Chemical Technology	36.9	181
Retail Trade, Other	34.6	358
Commercial Photography Occupations	32.2	176
Agricultural Technology	26.5	79

Table D-3. -- Traditional vocational training programs, by detailed classification, by percent of students in the training nationally that are women: Office of Civil Rights sample of selected secondary AVTS, United States, 1974

Training Programs	Percent Women	Number of Women Enrolled
Clothing and Textiles	99.1	2,648
Care and Guidance of Children	99.0	3,376
Consumer Education	98.7	1,592
Medical Assistant	98.4	1,199
Cosmetology	98.0	14,344
Practical Nursing	97.9	6,855
Child Development	97.3	36
Dental Assistant	97.0	1,965
Stenography, Secretarial	96.9	9,262
Nursing, Other	96.8	91
Community Health Aid	96.6	488
Clothing Management	95.7	956
Personal Services	95.5	276
Nursing	95.4	331
Institutional and Home Management	94.7	411
Home Economics Occupations	94.4	1,802
Office, Other	94.3	2,720
Housing and Home Furnishing	94.0	469
Occupational Therapy	92.9	79
Nursing Assistant	92.2	3,221
Misc. Health Occupations	91.2	2,728
Filing and Clerical	89.4	7,617
Information Communications	88.7	716
Radio Technology (x-ray)	88.0	95
Homemaking, Pers. Home & Family	87.2	6,320
Medical Lab Assistant	86.8	439
Medical Lab Techn, Other	86.3	88
Foods and Nutrition	86.3	1,104
Typing	86.2	6,267
Home Management	85.1	401
Homemaking, Other	84.7	515
Personal Services	84.4	329
Textile Production	83.6	1,240
Home Furnishings	81.2	198
Transportation	79.8	103
Advertising Services	77.5	79
Accounting	77.4	3,818
Water and Waste Water Tech.	77.4	72

Table D-4. -- Non-traditional masculine training

AGRI-BUSINESS

Agricultural Production
Agricultural Supplies/Services
Agricultural Mechanics
Agricultural Products
Agricultural Resources

MARKETING AND DISTRIBUTION

Warehousing

TECHNICAL OCCUPATIONS

Aeronautical Technology
Architectural Technology
Civil Technology
Electrical Technology
Electronic Technology
Electromechanical Technology
Mechanical Technology

TRADE AND INDUSTRIAL

Air Conditioning Installation Repair
Body and Fender Repair
Auto Mechanic
Auto Specialization Repair
Aircraft Maintenance
Building Trades

TRADE AND INDUSTRIAL (cont'd)

Carpentry, Construction
Heavy Equipment Maintenance Occupations
Masonry
Plastering
Plumbing and Pipefitting
Custodial Services
Diesel Mechanic
Electrical Occupations
Industrial Atomic Energy Occupations
Maritime Occupations
Metalworking Occupations
Machine Shop
Machine Tool Operation
Tool and Die Making
Metallurgy Occupations
Barbering
Small Engine Repair Internal Combustion
Stationary Energy Sources Occupations

Table D-5. -- Non-traditional neutral training

AGRI-BUISNESS

- Forestry

MARKETING AND DISTRIBUTION

- Automotive

TECHNICAL OCCUPATIONS

- Environmental Control
- Instrumental Technology

TRADE AND INDUSTRIAL

- Appliance Repair
- Blueprint Reading

TRADE AND INDUSTRIAL (cont'd)

- Business Machine Maintenance
- Drafting Occupations
- Electronic Occupations
- Radio and Television
- Fabric Maintenance Services
- Graphic Arts Occupations
- Welding and Cutting
- Law Enforcement Training
- Refrigeration
- Leatherworking
- Upholstering
- Woodworking Occupations

Table D-6. -- Number of women in non-traditional training programs, by Office of Education detailed classifications: Sample of AVTS students, United States, Spring 1977

Program	Number of women in sample	
	Number	Percent
AGRICULTURE	144	13.8
Agricultural production	69	
Agricultural supplies/services	11	
Agricultural mechanics	13	
Agricultural products	1	
Agricultural resources	19	
Forestry	8	
Other agricultural	23	
MARKETING AND DISTRIBUTION	7	0.7
Automotive	2	
Warehousing	5	
HEALTH OCCUPATIONS		
HOME ECONOMICS		
BUSINESS AND OFFICE	1	0.1
Other business, NEC	1	
TECHNICAL OCCUPATIONS	57	5.4
Aeronautical technology	1	
Architectural technology	21	
Civil Technology	1	
Electrical technology	5	
Electronic technology	11	
Electromechanical technology	3	
Environmental control	3	
Mechanical technology	6	
Other technical	6	

Program	Number of women in sample	
	Number	Percent
TRADE AND INDUSTRIAL	838	80.0
Air conditioning installation and repair	1	
Appliance repair	4	
Body and fender repair	9	
Auto mechanic	47	
Aircraft maintenance	6	
Building trades	6	
Business machine maintenance	2	
Carpentry, construction	14	
Masonry	1	
Plumbing and pipefitting	1	
Custodial services	1	
Diesel mechanic	1	
Drafting occupations	188	
Electrical occupations	7	
Electronic occupations	18	
Radio and television	42	
Fabric maintenance services	3	
Graphic arts occupations	363	
Industrial atomic energy occupations	1	
Metalworking occupations	5	
Machine shop	9	
Welding and cutting	14	
Tool and die making	1	
Barbering	3	
Law enforcement training	11	
Refrigeration	1	
Small engine repair internal combustion	7	
Leatherworking	1	
Upholstering	32	
Woodworking occupations	17	
Other trade and industrial	22	

Additional classifications that are non-traditional, but did not appear in the sample

TECHNICAL OCCUPATIONS

Instrumental technology
Automotive technology

TRADE AND INDUSTRIAL

Auto specialization repair
Blueprint reading

TRADE AND INDUSTRIAL (continued)

Heavy equipment maintenance operation
Plastering
Maritime occupations
Machine Tool Operations
Metallurgy occupations
Stationary energy sources occupations
Automotive services, other

Table D-7. -- Number of women in mixed vocational training programs, by Office of Education detailed classifications: Sample of AVTS students, United States, Spring 1977

Program	Number of women in sample	
	Number	Percent
AGRI-BUSINESS	97	9.7
Ornamental horticulture	97	
MARKETING AND DISTRIBUTION	316	31.6
Apparel and accessories	22	
Food distribution	14	
Food services	105	
General merchandise	125	
Hotel and lodging	3	
Real estate	1	
Recreation and tourism	1	
Other distributive education	45	
HOME ECONOMICS	158	15.8
Food management, production and services	117	
Family relations	40	
Other, home economics	1	
HEALTH OCCUPATIONS	39	3.9
Dental lab technology	39	
BUSINESS AND OFFICE	240	24.0
Business data processing system occupations	229	
Supervisory and administrative management occupations	11	
TECHNICAL OCCUPATIONS	31	3.1
Agricultural technology	1	
Chemical technology	9	
Scientific data processing	19	
Agricultural-related technology	2	
TRADE AND INDUSTRIAL	118	11.8
Commercial art occupations	74	
Commercial photography occupations	3	
Foreman, supervisor and management development	1	
Quantity food occupations	40	

Table D-8. -- Number of women in traditional training programs, by Office of Education detailed classifications: Sample of AVTS students, United States, Spring 1977

Program	Number of women in sample		Program	Number of women in sample	
	Number	Percent of total		Number	Percent of total
MARKETING AND DISTRIBUTION	12	1.2	BUSINESS AND OFFICE OCCUPATIONS	376	38.8
Advertising services	6				
Personal services	6		Accounting and computing occupations	84	
HEALTH OCCUPATIONS	241	24.9	Filing, office machine, and clerical occupations	143	
Dental assisting	40				
Medical lab asisting	2				
Nursing	21		Stenographic, secretarial and related occupations	120	
Practical (vocational) nursing	34		Typing and related occupations	28	
Nursing assistance (aide)	129		Other business	1	
Radiologic tech (x-ray)	2				
Medical assistant	10		TECHNOLOGY OCCUPATIONS		
Community health aide	3				
HOME ECONOMICS	202	20.9	TRADE AND INDUSTRIAL OCCUPATIONS	137	14.2
Homemaking, personal, home and family	4		Cosmetology	121	
Child development	27		Textile Production, etc.	15	
Clothing and textiles	38		Other trade and industrial	1	
Foods and nutrition	6				
Housing and home furnishing	1				
Home economics, occupational preparation	10				
Other, home economics	4				
Care and guidance of children	101				
Clothing management, production & services	9				
Institutional and home management	2				

Additional classifications that are traditional, but did not appear in the sample

MARKETING AND DISTRIBUTION	BUSINESS AND OFFICE OCCUPATIONS
Transportation	Information communications
HEALTH OCCUPATIONS	TECHNOLOGY OCCUPATIONS
Medical lab technician	Water and waste water technology
HOME ECONOMICS	TRADE AND INDUSTRIAL OCCUPATIONS
Consumer education Home management Home furnishing, equipment and services	Other personal services

Table D-9. -- Women students enrolled in vocational training programs nationally and in the student survey sample, by broad classification of study and N-M-T category: Students from Office of Civil Rights sample of selected AVTS, United States, 1974, and a selected sample of students in AVTS, United States, Spring 1977.

Broad classification of study	Student enrollment (percent)					
	Non-traditional		Mixed		Traditional	
	National	Survey sample	National	Survey sample	National	Survey sample
Agriculture	22.0	13.8	7.1	9.7	0.0	0.0
Distributive	2.0	0.7	30.2	31.6	0.5	1.2
Health	0.1	0.0	0.6	3.9	20.6	24.9
Home economics	0.0	0.0	14.8	15.8	24.6	20.9
Business	0.0	0.1	23.1	24.0	35.5	38.8
Technical	4.8	5.4	5.8	3.1	0.2	0.0
Trade and industrial	72.9	80.0	18.5	11.8	18.6	14.2
	-- (number) --					
Agriculture	1,240	144	1,699	97	0	0
Distributive	11	7	7,200	316	458	12
Health	4	0	137	39	17,678	241
Home economics	0	0	3,530	158	21,069	202
Business	0	1	5,519	240	30,400	376
Technical	272	57	1,381	31	139	0
Trade and industrial	4,104	838	4,405	118	15,913	137

Appendix E. -- Questionnaires

- Non-traditional
- Mixed
- Traditional
- Educational Personnel

Rj associates

Non-traditional

January 1977

Dear Student:

Under a contract from the Bureau of Occupational and Adult Education, US Department of Health, Education and Welfare (DHEW), Rj Associates, a woman-owned consulting firm is undertaking research designed to better understand the occupational choices of young women, and eventually assist women to increase the occupational options available to them. The purposes of the research are to identify those factors that influence the decisions of young women to enter vocational educational programs which traditionally have been dominated by men; to identify the various people who may have helped in making that choice; and to develop information on their experiences in those programs.

Since you are one of the relatively few young women in the United States who have enrolled in a "non-traditional" vocational program, your participation in the study is the key to its success.

We would like you to fill out the attached questionnaire, which will provide much needed information, and return it to us in the stamped preaddressed envelope. Your answers, together with those from other young women in similar vocational training programs, will help others to benefit from your experiences.

You are not required to participate in this study, but we would sincerely appreciate your participation.

Sincerely yours,

Rj ASSOCIATES, INC.

Roslyn D. Kane

Roslyn D. Kane
President and Project Director

RDK/aif

Enclosure

1018 Wilson Boulevard, Arlington, Virginia 2.209 (703) 524-3360

SECONDARY WOMEN IN VOCATIONAL EDUCATION

Student Questionnaire

Please respond to ALL questions.

1. What grade are you now in? (Check one)

   a. ☐ 11th grade
   b. ☐ 12th grade
   c. ☐ Other (specify) ____________

2. How old are you?

   ____

3. Which of the following best describes your racial/ethnic group? (Check one)

   a. ☐ Black/Negro
   b. ☐ Caucasian/White
   c. ☐ Hispanic*
   d. ☐ Asian or Pacific Islander**
   e. ☐ American Indian or Alaskan Native***

4. What is (was) your father's usual occupation? Circle one and place an "F" before your selection, e.g., (F farmer). If his occupation is not listed among the examples, please fill in the blank marked "Other."

Occupational List

CLERICAL--bank teller, bookkeeper, cashier, mail carrier, office machine operator, payroll receiving, shipping or stock clerk, secretary, telephone operator, typist. . .

SKILLED WORKER--baker, construction man, crane man, foreman, machinist, mechanic, repairman. . .

AGRICULTURE--farmer, farm laborer, farm manager. . .

LABORER--except farm--construction laborer, freight, stock or materials handler, garbage collector, gardener, lumberman, car washer, warehouseman. . .

MANAGER and/or ADMINISTRATOR--administrator, bank officer, buyer, contractor, department head, manager, owner of business. .

SEMI-SKILLED WORKER--assembler, checker, dry cleaning operator, gas station attendant, laundry operator, machine operator, packer, bus, truck or taxi driver, welder. . .

PROFESSIONAL or TECHNICAL WORKER--accountant, clergyman, computer programmer, draftsman, engineer, health technician, lawyer, nurse, performer, physician, scientist, social worker, teacher. . .

SALES WORKER--advertising agent, insurance agent, real estate broker, sales clerk, salesman. . .

SERVICE WORKER--barber, childcare worker, elevator operator, fireman, food service worker, guard, hairdresser, janitor, maid, police. . .

☐ Other ______________________
(Specify father's occupation)

5. Is your mother currently employed? ☐ Yes ☐ No

6. What is (was) your mother's usual occupation? Select one from the Occupational List above, draw an "X" through your selection and place an "M" before it (M ~~buyer~~). If her occupation is not listed above, fill in the blank marked "Other."

   Other (Specify mother's occupation)______________________________ ☐

*Hispanic includes: Mexican, Puerto Rican, Cuban, other Spanish origin.

**Asian or Pacific Islander includes: persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Pacific Islands.

***American Indian or Alaskan Native includes: persons having origins in any of the original peoples of North America.

7. During your lifetime, about how many years was your mother employed? (Check one)

1. ☐ Never
2. ☐ under 5 years
3. ☐ 5 to 9 years
4. ☐ 10 to 14 years
5. ☐ 15 or more years

8. How much education did your parents complete? (Check one for each parent)

	MOTHER	FATHER
a. 8th grade or less	a. ☐	a. ☐
b. Did not finish high school	b. ☐	b. ☐
c. High school graduate	c. ☐	c. ☐
d. Some college	d. ☐	d. ☐
e. College graduate or beyond	e. ☐	e. ☐

9. In your estimation which of the following is closest to your household income (your parents' income if you are living with them)? (Check one)

1. ☐ Less than $5,000
2. ☐ $5,001 - $10,000
3. ☐ $10,001 - $15,000
4. ☐ $15,001 - $20,000
5. ☐ $20,001 and over
6. ☐ Don't know

10. How many courses of math and science have you taken in high school? (Enter the number of courses.)

A. ☐ Mathematics B. ☐ Science

C. Are these courses measured in (check one): ☐ Years ☐ Semesters ☐ Trimesters or ☐ Quarters

11. What are your plans after high school? (Check one)

A. ☐ to work
B. ☐ to attend a two-year or a four-year academic program
C. ☐ to attend a vocational/technical program
D. ☐ have no plans
E. ☐ Other (Please specify) ______________________________

12. If you checked A. in question #11, what is the title of the job you would be seeking?

____

13. If you checked C. in question #11 above, in what vocational/technical training course would you enroll?

____

14. Below is a list of educational programs. Please check the program that most closely resembles the one in which you are now enrolled.

AGRI-BUSINESS
1. ____ Ornamental Horticulture
2. ____ Agricultural Production
3. ____ Agricultural Supplies/Services
4. ____ Agricultural Mechanics
5. ____ Agricultural Products
6. ____ Agricultural Resources
7. ____ Forestry

MARKETING AND DISTRIBUTION
8. ____ Apparel & Accessories
9. ____ Food Distribution
10. ____ Food Services
11. ____ General Merchandise
12. ____ Hotel and Lodging
13. ____ Real Estate
14. ____ Recreation and Tourism
15. ____ Automotive
16. ____ Warehousing

HEALTH OCCUPATIONS
17. ____ Dental Lab Technology

HOME ECONOMICS
18. ____ Food Management, Production and Services
19. ____ Family Relations

BUSINESS AND OFFICE
20. ____ Business Data Processing System Occupations
21. ____ Supervisory and Administrative Management Occupations

TECHNICAL OCCUPATIONS
22. ____ Agricultural Technology
23. ____ Chemical Technology
24. ____ Scientific Data Processing
25. ____ Agricultural-Related Technology
26. ____ Aeronautical Technology
27. ____ Architectural Technology
28. ____ Civil Technology
29. ____ Electrical Technology
30. ____ Electronic Technology
31. ____ Electromechanical Technology
32. ____ Environmental Control
33. ____ Instrumental Technology
34. ____ Mechanical Technology

TRADE AND INDUSTRIAL
35. ____ Commercial Art Occupations
36. ____ Commercial Photography Occupations
37. ____ Foreman, Supervisor and Management Development
38. ____ Quantity Food Occupations
40. ____ Air Conditioning Installation and Repair
41. ____ Appliance Repair
42. ____ Body and Fender Repair
43. ____ Auto Mechanic
44. ____ Auto Specialization Repair
45. ____ Aircraft Maintenance
46. ____ Building Trades
47. ____ Blueprint Reading
48. ____ Business Machine Maintenance
49. ____ Carpentry, Construction
50. ____ Heavy Equipment Maintenance Operation
51. ____ Masonry
52. ____ Plastering
53. ____ Plumbing and Pipefitting
54. ____ Custodial Services
55. ____ Diesel Mechanic
56. ____ Drafting Occupations
57. ____ Electrical Occupations
58. ____ Electronic Occupations
59. ____ Radio and Television
60. ____ Fabric Maintenance Services
61. ____ Graphic Arts Occupations
62. ____ Industrial Atomic Energy Occupations
63. ____ Maritime Occupations
64. ____ Metalworking Occupations
65. ____ Machine Shop
66. ____ Machine Tool Operation
67. ____ Welding and Cutting
68. ____ Tool and Die Making
69. ____ Metallurgy Occupations
70. ____ Barbering
71. ____ Law Enforcement Training
72. ____ Refrigeration
73. ____ Small Engine Repair Internal Combustion
74. ____ Stationary Energy Sources Occupations
75. ____ Leatherworking
76. ____ Upholstering
77. ____ Woodworking Occupations

Other (Please specify) ______________________________

15. Using the scale provided, how would you rate each of the following as influencing your decision to select your present vocational training program? (Enter 3, 2, or 1 in each space provided.)

3 = very important
2 = somewhat important
1 = not important

A. Am likely to earn a good income ☐ B. Have interest in the area ☐ C. Have ability in the area ☐

D. Attracted by working conditions (steady work, many available jobs, opportunity for advancement, etc.) ☐

E. Other (Please specify) ____________________

16. Using the scale provided, please rate the influence of the following methods in helping you select your present vocational program. (Enter 3, 2, or 1 in each space provided.)

3 = very important
2 = somewhat important
1 = not important

A. Individual Counseling ☐

Group Counseling:

- B. Mixed groups of men and women ☐
- C. Groups of women only ☐

D. Vocational testing program ☐

E. Visiting potential job sites ☐

F. Having representatives from industry visit your class ☐

G. Other ____________________
____

H. Career education program (includes familiarization with work environments and work habits, and experience in basic occupational skills). ☐

J. Career orientation program (includes descriptions of various occupations and their educational and skill requirements for employment). ☐

17. In the list of counseling programs in question #16 (A-J), please put a circle around those that are available at your school.

○ ○ ○ ○

18. In which programs listed in question #16 have you participated? (Indicate participation by checking the appropriate box(es) below.)

☐	☐	☐	☐	☐	☐	☐	☐	☐
A	B	C	D	E	F	G	H	J

19. In addition to attending school, are you presently working? ☐ Yes ☐ No

B. If yes, is your job related to the occupation for which you are studying? ☐ Yes ☐ No

C. Did the school you are attending help get you the job? ☐ Yes ☐ No

20(1). Using the scale below, please rate the influence of the following persons in helping you select your present educational program. (Enter 3, 2, or 1 in each space provided.)

A. ☐ Mother

B. ☐ Father

3 = very important
2 = somewhat important
1 = not important

			MAN	WOMAN
C/D.	Other relative		C. ☐	D. ☐
E/F.	Friend		E. ☐	F. ☐
G/H.	Teacher:	Jr. High School	G. ☐	H. ☐
I/J.		Sr. High School	I. ☐	J. ☐
K/L.	Counselor:	Jr. High School	K. ☐	L. ☐
M/N.		Sr. High School	M. ☐	N. ☐
	Other School Personnel:			
O/P.		Jr. High School	O. ☐	P. ☐
Q/R.		Sr. High School	Q. ☐	R. ☐

20(2). If in 20(1) you marked 2 or 3 for any teacher, please indicate what subject area this person(s) teaches.

	Teachers	Teaching Area	
A.	Jr. High Man	1 ______	2 ______
B.	Jr. High Woman	1 ______	2 ______
C.	Sr. High Man	1 ______	2 ______
D.	Sr. High Woman	1 ______	2 ______

20(3). If any event, rather than person, influenced your decision, briefly describe.

____

____

____

20(4). If in question 20(1) you put 3 (very important) after any of the following: Teacher(s), Counselor(s), or other School Personnel, please list their names and addresses below:

Name Position (teacher, counselor, etc.)

His or her school name

His or her school address

Name Position (teacher, counselor, etc.)

His or her school name

His or her school address

21. Are you the only women in your vocational training classroom? ☐ Yes ☐ No

If no, how many others are there? ☐

(Insert appropriate number)

22. In your vocational education classes have you experienced any of the following? (Please respond to each question)

	Yes	Somewhat	No
A. Men students find it difficult to adjust to women students.			
B. Teachers find it difficult to adjust to women students.			
C. Teachers pay more attention to men students.			
D. Counselors pay more attention to the men students.			
E. Teachers expect women students to perform at a higher level than men students.			
F. On the whole, the men students are better prepared than the women students.			

G. Other problems (Please specify) ______________________________

22. (Continued)

In your vocational education classes:	Yes	Somewhat	No
H. Have men students had more science classes than women students?		▨	
▷ I. Is this a problem for you?			
J. Have men students had more math classes than women students?		▨	
▷ K. Is this a problem for you?			
L. Have men students had more technical subjects than women students?		▨	
▷ M. Is this a problem for you?			

23. Would you seek help from any of the following if you were having problems (such as those listed above) in your vocational classes? (Check one for each.)

	Yes	No
a. Parents	☐	☐
b. Friends	☐	☐
c. Counselors	☐	☐
d. Teachers	☐	☐

e. Others (Please specify) ______________________

24. A. Do you eventually plan to work in the area in which you are presently training?

☐ Yes ☐ No ☐ Not certain

B. Did you ever seriously consider training for any other alternative occupation? ☐ Yes ☐ No

C. If yes, what alternative(s) did you consider? (Please specify)

____

When you have completed the questionnaire, fold it in thirds, insert it in the pre-addressed envelope, and mail directly to:

Rj Associates, Inc.
1018 Wilson Boulevard
Arlington, VA 22209

You will need no stamps for the mailing.

Thank you for your help.

Rj associates

Mixed

January 1977

Dear Student:

Under a contract from the Bureau of Occupational and Adult Education, US Department of Health, Education, and Welfare (DHEW), Rj Associates, a woman-owned consulting firm, is undertaking a study designed to better understand the occupational choices of young women, and eventually to assist in increasing occupational choices for all women.

The purpose of the research is to pinpoint those factors which influence the decisions of young women to enter various vocational educational programs.

We would like you to fill out the attached questionnaires, which will provide much needed information, and return it to us in the stamped pre-addressed envelope. Your answers,together with those from other young women in similar vocational training programs,will help others to benefit from your experiences.

You are not required to participate in this study, but we would sincerely appreciate your participation.

Sincerely yours,

Rj ASSOCIATES, INC.

Roslyn D. Kane

Roslyn D. Kane
President and Project Director

RDK/aif

Enclosure

1018 Wilson Boulevard, Arlington, Virginia 22209 (703) 524-3360

SECONDARY WOMEN IN VOCATIONAL EDUCATION

Student Questionnaire

Please respond to ALL questions.

1. What grade are you now in? (Check one)

a. ☐ 11th grade
b. ☐ 12th grade
c. ☐ Other (specify) __________

2. How old are you?

____

3. Which of the following best describes your racial/ethnic group? (Check one)

a. ☐ Black/Negro
b. ☐ Caucasian/White
c. ☐ Hispanic*
d. ☐ Asian or Pacific Islander**
e. ☐ American Indian or Alaskan Native***

4. What is (was) your father's usual occupation? Circle one and place an "F" before your selection, e.g., (F farmer). If his occupation is not listed among the examples, please fill in the blank marked "Other."

Occupational List

F=
M=

CLERICAL--bank teller, bookkeeper, cashier, mail carrier, office machine operator, payroll receiving, shipping or stock clerk, secretary, telephone operator, typist. . .

SKILLED WORKER--baker, construction man, crane man, foreman,machinist, mechanic, repairman. . .

AGRICULTURE--farmer, farm laborer, farm manager. . .

LABORER--except farm--construction laborer, freight, stock or materials handler,garbage collector, gardener, lumberman, car washer, warehouseman. . .

MANAGER and/or ADMINISTRATOR--administrator, bank officer, buyer, contractor, department head, manager, owner of business. .

SEMI-SKILLED WORKER--assembler, checker, dry cleaning operator, gas station attendant, laundry operator, machine operator, packer, bus, truck or taxi driver, welder. . .

PROFESSIONAL or TECHNICAL WORKER--accountant, clergyman, computer programmer, draftsman, engineer, health technician, lawyer, nurse, performer, physician, scientist, social worker, teacher. . .

SALES WORKER--advertising agent, insurance agent, real estate broker, sales clerk, salesman. . .

SERVICE WORKER--barber, childcare worker, elevator operator, fireman, food service worker, guard, hairdresser, janitor, maid, police. . .

☐ Other ______________________
(Specify father's occupation)

5. Is your mother currently employed? ☐ Yes ☐ No

6. What is (was) your mother's usual occupation? Select one from the Occupational List above, draw an "X" through your selection and place an "M" before it (M ~~buyer~~). If her occupation is not listed above, fill in the blank marked "Other."

Other (Specify mother's occupation)______________________________ ☐

*Hispanic includes: Mexican, Puerto Rican, Cuban, other Spanish origin.

**Asian or Pacific Islander includes: persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Pacific Islands.

***American Indian or Alaskan Native includes: persons having origins in any of the original peoples of North America.

7. During your lifetime, about how many years was your mother employed? (Check one)

1. ☐ Never
2. ☐ under 5 years
3. ☐ 5 to 9 years
4. ☐ 10 to 14 years
5. ☐ 15 or more years

8. How much education did your parents complete? (Check one for each parent)

	MOTHER	FATHER
a. 8th grade or less	a. ☐	a. ☐
b. Did not finish high school	b. ☐	b. ☐
c. High school graduate	c. ☐	c. ☐
d. Some college	d. ☐	d. ☐
e. College graduate or beyond	e. ☐	e. ☐

9. In your estimation which of the following is closest to your household income (your parents' income if you are living with them)? (Check one)

1. ☐ Less than $5,000
2. ☐ $5,001 - $10,000
3. ☐ $10,001 - $15,000
4. ☐ $15,001 - $20,000
5. ☐ $20,001 and over
6. ☐ Don't know

10. How many courses of math and science have you taken in high school? (Enter the number of courses.)

A. ☐ Mathematics B. ☐ Science

C. Are these courses measured in (check one): ☐ Years ☐ Semesters ☐ Trimesters or ☐ Quarters

11. What are your plans after high school? (Check one)

A. ☐ to work
B. ☐ to attend a two-year or a four-year academic program
C. ☐ to attend a vocational/technical program
D. ☐ have no plans
E. ☐ Other (Please specify) ________________________________

12. If you checked A. in question #11, what is the title of the job you would be seeking?

____

13. If you checked C. in question #11 above, in what vocational/technical training course would you enroll?

____

14. Below is a list of educational programs. Please check the program that most closely resembles the one in which you are now enrolled.

AGRI-BUSINESS

1. ____ Ornamental Horticulture
2. ____Agricultural Production
3. ____Agricultural Supplies/Services
4. ____Agricultural Mechanics
5. ____Agricultural Products
6. ____Agricultural Resources
7. ____Forestry

MARKETING AND DISTRIBUTION

8. ____Apparel & Accessories
9. ____Food Distribution
10. ____Food Services
11. ____General Merchandise
12. ____Hotel and Lodging
13. ____Real Estate
14. ____Recreation and Tourism
15. ____Automotive
16. ____Warehousing

HEALTH OCCUPATIONS

17. ____ Dental Lab Technology

HOME ECONOMICS

18. ____Food Management, Production and Services
19. ____ Family Relations

BUSINESS AND OFFICE

20. ____Business Data Processing System Occupations
21. ____ Supervisory and Administrative Management Occupations

TECHNICAL OCCUPATIONS

22. ____Agricultural Technology
23. ____Chemical Technology
24. ____Scientific Data Processing
25. ____ Agricultural-Related Technology
26. ____Aeronautical Technology
27. ____Architectural Technology
28. ____Civil Technology
29. ____Electrical Technology
30. ____Electronic Technology
31. ____Electromechanical Technology
32. ____Environmental Control
33. ____Instrumental Technology
34. ____Mechanical Technology

TRADE AND INDUSTRIAL

35. ____Commercial Art Occupations
36. ____Commercial Photography Occupations
37. ____Foreman, Supervisor and Management Development
38. ____Quantity Food Occupations
40. ____Air Conditioning Installation and Repair
41. ____Appliance Repair
42. ____Body and Fender Repair
43. ____Auto Mechanic
44. ____Auto Specialization Repair
45. ____Aircraft Maintenance
46. ____Building Trades
47. ____Blueprint Reading
48. ____Business Machine Maintenance
49. ____Carpentry, Construction
50. ____Heavy Equipment Maintenance Operation
51. ____Masonry
52. ____Plastering
53. ____Plumbing and Pipefitting
54. ____Custodial Services
55. ____Diesel Mechanic
56. ____Drafting Occupations
57. ____Electrical Occupations
58. ____Electronic Occupations
59. ____Radio and Television
60. ____Fabric Maintenance Services
61. ____Graphic Arts Occupations
62. ____Industrial Atomic Energy Occupations
63. ____Maritime Occupations
64. ____Metalworking Occupations
65. ____Machine Shop
66. ____Machine Tool Operation
67. ____Welding and Cutting
68. ____Tool and Die Making
69. ____Metallurgy Occupations
70. ____Barbering
71. ____Law Enforcement Training
72. ____Refrigeration
73. ____Small Engine Repair Internal Combustion
74. ____Stationary Energy Sources Occupations
75. ____Leatherworking
76. ____Upholstering
77. ____Woodworking Occupations

Other (Please specify) ____

15. Using the scale provided, how would you rate each of the following as influencing your decision to select your present vocational training program? (Enter 3, 2, or 1 in each space provided.)

3 = very important
2 = somewhat important
1 = not important

A. Am likely to earn a good income ☐ B. Have interest in the area ☐ C. Have ability in the area ☐

D. Attracted by working conditions (steady work, many available jobs, opportunity for advancement, etc.) ☐

E. Other (Please specify) ______________________________

16. Using the scale provided, please rate the influence of the following methods in helping you select your present vocational program. (Enter 3, 2, or 1 in each space provided.)

3 = very important
2 = somewhat important
1 = not important

A. Individual Counseling ☐

Group Counseling:

B. Mixed groups of men and women ☐

C. Groups of women only ☐

D. Vocational testing program ☐

E. Visiting potential job sites ☐

F. Having representatives from industry visit your class ☐

G. Other ______________________________

____

H. Career education program (includes familiarization with work environments and work habits, and experience in basic occupational skills). ☐

J. Career orientation program (includes descriptions of various occupations and their educational and skill requirements for employment). ☐

17. In the list of counseling programs in question #16 (A-J), please put a circle around those that are available at your school.

○ ○ ○ ○

18. In which programs listed in question #16 have *you* participated? (Indicate participation by checking the appropriate box(es) below.)

☐	☐	☐	☐	☐	☐	☐	☐	☐
A	B	C	D	E	F	G	H	J

19. In addition to attending school, are you presently working? ☐ Yes ☐ No

B. If yes, is your job related to the occupation for which you are studying? ☐ Yes ☐ No

C. Did the school you are attending help get you the job? ☐ Yes ☐ No

20(1). Using the scale below, please rate the influence of the following persons in helping you select your present educational program. (Enter 3, 2, or 1 in each space provided.)

A. ☐ Mother

B. ☐ Father

3 = very important
2 = somewhat important
1 = not important

			MAN	WOMAN
C/D.	Other relative		C. ☐	D. ☐
E/F.	Friend		E. ☐	F. ☐
G/H.	Teacher:	Jr. High School	G. ☐	H. ☐
I/J.		Sr. High School	I. ☐	J. ☐
K/L.	Counselor:	Jr. High School	K. ☐	L. ☐
M/N.		Sr. High School	M. ☐	N. ☐
	Other School Personnel:			
O/P.		Jr. High School	O. ☐	P. ☐
Q/R.		Sr. High School	Q. ☐	R. ☐

20(2). If in 20(1) you marked 2 or 3 for any teacher, please indicate what subject area this person(s) teaches.

	Teachers	Teaching Area	
A.	Jr. High Man	1 ______________	2 ______________
B.	Jr. High Woman	1 ______________	2 ______________
C.	Sr. High Man	1 ______________	2 ______________
D.	Sr. High Woman	1 ______________	2 ______________

20(3). If any event, rather than person, influenced your decision, briefly describe.

____

____

____

20(4). If in question 20(1) you put 3 (very important) after any of the following: Teacher(s), Counselor(s), or other School Personnel, please list their names and addresses below:

Name	Position (teacher, counselor, etc.)
His or her school name	
His or her school address	
Name	Position (teacher, counselor, etc.)
His or her school name	
His or her school address	

21. Are you the only women in your vocational training classroom? ☐ Yes ☐ No

If no, how many others are there? ☐

(Insert appropriate number)

22. In your vocational education classes have you experienced any of the following? (Please respond to each question)

	Yes	Somewhat	No
A. Men students find it difficult to adjust to women students.			
B. Teachers find it difficult to adjust to women students.			
C. Teachers pay more attention to men students.			
D. Counselors pay more attention to the men students.			
E. Teachers expect women students to perform at a higher level than men students.			
F. On the whole, the men students are better prepared than the women students.			

G. Other problems (Please specify) ______________________________

22. (Continued)

In your vocational education classes:	Yes	Somewhat	No
H. Have men students had more science classes than women students?		▨	
▷ I. Is this a problem for you?			
J. Have men students had more math classes than women students?		▨	
▷ K. Is this a problem for you?			
L. Have men students had more technical subjects than women students?		▨	
▷ M. Is this a problem for you?			

23. Would you seek help from any of the following if you were having problems (such as those listed above) in your vocational classes? (Check one for each.)

	Yes	No
a. Parents	☐	☐
b. Friends	☐	☐
c. Counselors	☐	☐
d. Teachers	☐	☐

e. Others (Please specify) ______________________________

24. A. Do you eventually plan to work in the area in which you are presently training?

☐ Yes ☐ No ☐ Not certain

B. Did you ever seriously consider training for any other alternative occupation? ☐ Yes ☐ No

C. If yes, what alternative(s) did you consider? (Please specify)

____

When you have completed the questionnaire, fold it in thirds, insert it in the pre-addressed envelope, and mail directly to:

Rj Associates, Inc.
1018 Wilson Boulevard
Arlington, VA 22209

You will need no stamps for the mailing.

Thank you for your help.

Rj associates

Traditional

January 1977

Dear Student:

Under a contract from the Bureau of Occupational and Adult Education, US Department of Health, Education, and Welfare (DHEW), Rj Associates, a woman-owned consulting firm, is undertaking a study designed to better understand the occupational choices of young women, and eventually to assist in increasing occupational choices for all women.

The purpose of the research is to pinpoint those factors which influence the decisions of young women to enter various vocational educational programs.

We would like you to fill out the attached questionnaires, which will provide much needed information, and return it to us in the stamped pre-addressed envelope. Your answers,together with those from other young women in similar vocational training programs,will help others to benefit from your experiences.

You are not required to participate in this study, but we would sincerely appreciate your participation.

Sincerely yours,

Rj ASSOCIATES, INC.

Roslyn D. Kane

Roslyn D. Kane
President and Project Director

RDK/aif

Enclosure

1018 Wilson Boulevard, Arlington, Virginia 22209 (703) 524-3360

SECONDARY WOMEN IN VOCATIONAL EDUCATION

Student Questionnaire

Please respond to ALL questions.

1. What grade are you now in? (Check one)
   - a. ☐ 11th grade
   - b. ☐ 12th grade
   - c. ☐ Other (specify) __________

2. How old are you?

   ____

3. Which of the following best describes your racial/ethnic group? (Check one)
   - a. ☐ Black/Negro
   - b. ☐ Caucasian/White
   - c. ☐ Hispanic*
   - d. ☐ Asian or Pacific Islander**
   - e. ☐ American Indian or Alaskan Native***

4. What is (was) your father's usual occupation? Circle one and place an "F" before your selection, e.g., F farmer. If his occupation is not listed among the examples, please fill in the blank marked "Other."

Occupational List

CLERICAL--bank teller, bookkeeper, cashier, mail carrier, office machine operator, payroll receiving, shipping or stock clerk, secretary, telephone operator, typist. . .

SKILLED WORKER--baker, construction man, crane man, foreman, machinist, mechanic, repairman. . .

AGRICULTURE--farmer, farm laborer, farm manager. . .

LABORER--except farm--construction laborer, freight, stock or materials handler, garbage collector, gardener, lumberman, car washer, warehouseman. . .

MANAGER and/or ADMINISTRATOR--administrator, bank officer, buyer, contractor, department head, manager, owner of business. .

SEMI-SKILLED WORKER--assembler, checker, dry cleaning operator, gas station attendant, laundry operator, machine operator, packer, bus, truck or taxi driver, welder. . .

PROFESSIONAL or TECHNICAL WORKER--accountant, clergyman, computer programmer, draftsman, engineer, health technician, lawyer, nurse, performer, physician, scientist, social worker, teacher. . .

SALES WORKER--advertising agent, insurance agent, real estate broker, sales clerk, salesman. . .

SERVICE WORKER--barber, childcare worker, elevator operator, fireman, food service worker, guard, hairdresser, janitor, maid, police. . .

☐ Other ______________________
(Specify father's occupation)

5. Is your mother currently employed? ☐ Yes ☐ No

6. What is (was) your mother's usual occupation? Select one from the Occupational List above, draw an "X" through your selection and place an "M" before it (M ~~buyer~~). If her occupation is not listed above, fill in the blank marked "Other."

   Other (Specify mother's occupation)______________________________ ☐

*Hispanic includes: Mexican, Puerto Rican, Cuban, other Spanish origin.

**Asian or Pacific Islander includes: persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Pacific Islands.

***American Indian or Alaskan Native includes: persons having origins in any of the original peoples of North America.

7. During your lifetime, about how many years was your mother employed? (Check one)

1. ☐ Never
2. ☐ under 5 years
3. ☐ 5 to 9 years
4. ☐ 10 to 14 years
5. ☐ 15 or more years

8. How much education did your parents complete? (Check one for each parent)

	MOTHER	FATHER
a. 8th grade or less	a. ☐	a. ☐
b. Did not finish high school	b. ☐	b. ☐
c. High school graduate	c. ☐	c. ☐
d. Some college	d. ☐	d. ☐
e. College graduate or beyond	e. ☐	e. ☐

9. In your estimation which of the following is closest to your household income (your parents' income if you are living with them)? (Check one)

1. ☐ Less than $5,000
2. ☐ $5,001 - $10,000
3. ☐ $10,001 - $15,000
4. ☐ $15,001 - $20,000
5. ☐ $20,001 and over
6. ☐ Don't know

10. How many courses of math and science have you taken in high school? (Enter the number of courses.)

A. ☐ Mathematics B. ☐ Science

C. Are these courses measured in (check one): ☐ Years ☐ Semesters ☐ Trimesters or ☐ Quarters

11. What are your plans after high school? (Check one)

A. ☐ to work
B. ☐ to attend a two-year or a four-year academic program
C. ☐ to attend a vocational/technical program
D. ☐ have no plans
E. ☐ Other (Please specify) ______________________________

12. If you checked A. in question #11, what is the title of the job you would be seeking?

____

13. If you checked C. in question #11 above, in what vocational/technical training course would you enroll?

____

14. Below is a list of educational programs. Please check the program that most closely resembles the one in which you are now enrolled.

MARKETING AND DISTRIBUTION

1. ____Advertising Services
2. ____Personal Services
3. ____Transportation

HEALTH OCCUPATIONS

4. ____Dental Assisting
5. ____Medical Lab Assisting
6. ____Nursing
7. ____Practical (Vocational) Nursing
8. ____Nursing Assistance (Aide)
9. ____Radiologic Tech (X-ray)
10. ____Medical Assistant
11. ____Community Health Aide

HOME ECONOMICS

12. ____Homemaking, Personal, Home and Family
13. ____Child Development
14. ____Clothing and Textiles
15. ____Consumer Education
16. ____Foods and Nutrition
17. ____Home Management
18. ____Housing and Home Furnishing
19. ____Home Economics, Occupational Preparation
20. ____Care and Guidance of Children
21. ____Clothing Management Production Services
22. ____Home Furnishing, Equipment and Services
23. ____Institutional and Home Management

BUSINESS AND OFFICE OCCUPATIONS

24. ____Accounting and Computing Occupations
25. ____Filing, Office Machine and Clerical Occupations
26. ____Information Communications
27. ____Stenographic, Secretarial and Related Occupations
28. ____Typing and Related Occupations

TRADE AND INDUSTRIAL OCCUPATIONS

29. ____Cosmetology
30. ____Textile Production and Fabrication

Others (Please specify) ______________________________

15. Using the scale provided, how would you rate each of the following as influencing your decision to select your present vocational training program? (Enter 3, 2, or 1 in each space provided.)

3 = very important
2 = somewhat important
1 = not important

A. Am likely to earn a good income ☐
B. Have interest in the area ☐
C. Have ability in the area ☐

D. Attracted by working conditions (steady work, many available jobs, opportunity for advancement, etc.) ☐

E. Other (Please specify) ______________________________

16. Using the scale provided, please rate the influence of the following methods in helping you select your present vocational program. (Enter 3, 2, or 1 in each space provided.)

3 = very important
2 = somewhat important
1 = not important

A. Individual Counseling ☐

Group Counseling:

B. Mixed groups of men and women ☐

C. Groups of women only ☐

D. Vocational testing program ☐

E. Visiting potential job sites ☐

F. Having representatives from industry visit your class ☐

G. Other ______________________________
____

H. Career education program (includes familiarization with work environments and work habits, and experience in basic occupational skills). ☐

J. Career orientation program (includes descriptions of various occupations and their educational and skill requirements for employment). ☐

17. In the list of counseling programs in question #16 (A-J), please put a circle around those that are available at your school.

○ ○ ○ ○

18. In which programs listed in question #16 have *you* participated? (Indicate participation by checking the appropriate box(es) below.)

☐	☐	☐	☐	☐	☐	☐	☐	☐
A	B	C	D	E	F	G	H	J

19. In addition to attending school, are you presently working? ☐ Yes ☐ No

B. If yes, is your job related to the occupation for which you are studying? ☐ Yes ☐ No

C. Did the school you are attending help get you the job? ☐ Yes ☐ No

20(1). Using the scale below, please rate the influence of the following persons in helping you select your present educational program. (Enter 3, 2, or 1 in each space provided.)

A. ☐ Mother

B. ☐ Father

3 = very important
2 = somewhat important
1 = not important

			MAN	WOMAN
C/D.	Other relative		C. ☐	D. ☐
E/F.	Friend		E. ☐	F. ☐
G/H.	Teacher:	Jr. High School	G. ☐	H. ☐
I/J.		Sr. High School	I. ☐	J. ☐
K/L.	Counselor:	Jr. High School	K. ☐	L. ☐
M/N.		Sr. High School	M. ☐	N. ☐
	Other School Personnel:			
O/P.		Jr. High School	O. ☐	P. ☐
Q/R.		Sr. High School	Q. ☐	R. ☐

20(2). If in 20(1) you marked 2 or 3 for any teacher, please indicate what subject area this person(s) teaches.

	Teachers	Teaching Area	
A.	Jr. High Man	1 ____________	2 ____________
B.	Jr. High Woman	1 ____________	2 ____________
C.	Sr. High Man	1 ____________	2 ____________
D.	Sr. High Woman	1 ____________	2 ____________

20(3). If any event, rather than person, influenced your decision, briefly describe.

____

____

____

21. A. Do you eventually plan to work in the area in which you are presently training?

☐ Yes ☐ No ☐ Not Certain

B. Did you ever seriously consider training for any other alternative occupation? ☐ Yes ☐ No

C. If yes, what alternative(s) did you consider? (Please specify)

____

____

When you have completed the questionnaire, fold it in thirds, insert it in the pre-addressed envelope, and mail directly to:

Rj Associates, Inc.
1018 Wilson Boulevard
Arlington, VA 22209

You will need no stamps for the mailing.

Thank you for your help.

Rj associates

Study of Women in Secondary Vocational Education -- Educational Personnel Questionnaire

1018 Wilson Boulevard, Arlington, Virginia 22209 (703) 524-3360

WOMEN IN VOCATIONAL EDUCATION

School Personnel Questionnaire

Please respond to all questions

Background Information

1. Sex:
   - a. ☐ Male
   - b. ☐ Female

2. Which of the following best describes your racial/ethnic group?
   - a. ☐ Black/Negro
   - b. ☐ White/Caucasian
   - c. ☐ Hispanic*
   - d. ☐ Asian or Pacific Islander**
   - e. ☐ American Indian or Alaskan Native***

3A. What is your present job title or position?
   - a. ☐ Teacher
   - b. ☐ Counselor
   - c. ☐ Principal
   - d. ☐ Other (specify) ____________ ____________

3B. If you checked teacher, please enter your field of instruction in the space below.

____

4. In the appropriate spaces below, please check:

	Under 3 Years	Between 3 & 5 Years	Between 6 & 10 Years	Over 10 Years
A. How long have you been in your present job?				
B. How long have you worked in an educational setting?				

5. In the appropriate spaces below, indicate in what fields you specialize (education, psychology, etc.) and the highest degree(s) you have attained for each specialty.

Field of Specialization	BA/BS	MA/MS	Ph.D.	Additional Credits Beyond Highest Degree
A. ____________				
B. ____________				
C. ____________				

*Hispanic includes: Mexican, Puerto Rican, Cuban, other Spanish origin.
**Asian or Pacific Islander includes: persons having origins in any of the original peoples of the Far East, Southeast Asia, or the Pacific Islands.
***American Indian or Alaskan Native includes: persons having origins in any of the original peoples of North America.

6. Does your school operate a program designed to encourage young women to consider training for other than a traditional 1/ occupation?

☐ Yes ☐ No

7. a. Does your school use prepackaged guidance materials dealing with sex stereotypes and/or sex bias?

☐ Yes ☐ No

b. If yes, are they useful?

☐ Yes ☐ No

c. Please briefly describe your school's program in the space below, and, if possible, enclose any materials you or your school utilize. Please enter the name and address of persons where additional information about the program may be obtained.

____

____

____

____

8. Do you feel there is a need at your school for an in-service training program to provide assistance to school personnel to help them encourage young women to consider entering training for other than a traditional occupation? (Check one for each group).

For teachers: ☐ Yes ☐ No For counselors: ☐ Yes ☐ No

9. If funds were available, what outside assistance would help improve your school's programming in this area?

____

____

____

10. Are there resource materials you would use if funds were available?

☐ Yes ☐ No

If yes, please list them below:

	Title	Publisher
1.		
2.		
3.		

1/ For the purpose of the study, a vocational training program is defined as traditional if, nationally, more than 75.1% of the students enrolled in the program are women. Some examples include: Nursing, cosmetology, filing, typing, stenography, care and guidance of children, home management, etc.

11. What materials or programs not presently available need to be developed to assist school personnel in supporting women in their consideration of a vocational training program other than those traditionally dominated by women.

____

____

____

12. If such materials or program packages were developed, would your school be likely to use them?

☐ Yes ☐ No

13. Please rate the importance of the following in helping women to consider training for other than traditional occupations.

	Has a Negative Effect	Has No Usefulness	Is Somewhat Useful	Is Very Useful
A. Individual Counseling or Discussion				
GROUP COUNSELING:				
B. Groups of men and women				
C. Groups of women only				
D. Career Education Programs				
E. Career Orientation Programs				
F. Visiting Job Sites				
G. Having a Representative from Industry Visit the Class				
H. Consultation with Parents				
I. Vocational Testing				

Please list the names of the vocational tests utilized in your school.

____

____

____

____

____

14. In your experience, which of the following usually initiates the idea of a woman being trained for other than traditional occupations? (Check the appropriate box.)

a. ☐ Teacher
b. ☐ Counselor
c. ☐ Other School Personnel
d. ☐ Parents
e. ☐ Peers
f. ☐ Student Herself
g. ☐ Other ______________ (Specify) ______________
h. ☐ Don't know

15. Please check which in your estimation is the usual response to be expected from the following persons when a young woman considers training for other than a traditional occupation.

	(1) Very Discouraging	(2) Somewhat Discouraging	(3) Somewhat Encouraging	(4) Very Encouraging
Women friends				
Mother				
Father				
Husband/Men friends				
Men Vocational Counselors				
Women Vocational Counselors				
Men Teachers				
Women Teachers				

16. Please rate the following as to their importance in influencing a young woman to train for or remain in an occupation other than those traditionally dominated by women. (Enter 2, 1, or 0 in each space provided.)

2 = Very important
1 = Somewhat important
0 = Not important

A. Occupation has good earnings ☐

B. Enjoys working with men ☐

C. Interest or ability in the occupational area ☐

D. Attracted by working conditions (steady work, many available jobs, opportunity for advancement, etc.) ☐

E. Other (Please specify) ______________________________ ☐
____

17. Would you list qualities and/or skills which you feel are necessary for a woman to succeed in other than traditional vocational training which are different from those necessary for a woman to succeed in traditional training?

A. ____________________

B. ____________________

C. ____________________

D. ____________________

E. ____________________

F. ____________________

18. Do you think women presently training for other than traditional occupations need special support activities (examples listed in #19) tailored specifically to their needs?

☐ Yes ☐ No

19. Indicate below what activities are undertaken in your school and how you would rate their importance in supporting women in other than traditional training. Please rate each program whether or not it is available in your school.

Support Activity	Available		Rating		
	Yes	No	Very Important (3)	Somewhat Important (2)	Not Important (1)
Individual counseling					
GROUP COUNSELING: Mixed groups of men and women					
Groups of women only					
Counseling with potential employers					
Securing parental support					
Talking with women who have successfully "made it" in non-traditional jobs					
Other (Please specify) ____________					

20. Based on your past experience, what proportion of women in vocational training courses other than those traditionally dominated by women, are likely to do the following things after graduating from high school?

____% work in a job related to their present training.

____% work in a job not related to their present training.

____% attend a 2 to 4 year academic program.

____% enter a postsecondary vocational/technical program related to their high school vocational training.

____% enter a postsecondary vocational/training program not related to their high school vocational training.

____% other.

21. Does your school help students obtain employment upon graduating from high school? (Check the appropriate boxes.)

☐ No.

☐ No, but individual teachers and counselors may assist students.

☐ Yes, individual teachers/counselors are responsible for providing assistance.

☐ Yes, a special placement office exists.

☐ Yes, other. ______________________________

22. Does the school have established contacts with outside business and/or placement agencies who assist in job placement of students? (Check the appropriate boxes.)

☐ Yes, outside business

☐ Yes, public placement offices

☐ Yes, private placement offices

☐ No

☐ Don't know

23. Are you yourself involved in assisting graduates from your high school to obtain a job?

☐ Yes ☐ No

If yes, based on your experience, do you find it more difficult to place:

	Yes	No
(a) Women seeking other than traditional employment compared to women seeking traditional employment?	☐	☐
(b) Women seeking other than traditional employment compared to men seeking employment in the same occupation?	☐	☐

Please return the completed questionnaire and the requested enclosures in the pre-addressed envelope to:

Rj Associates, Inc.
1018 Wilson Boulevard
Arlington, Virginia 22209

Thank you for your help.

APPENDIX F

Glossary

AVTS -- Area Vocational Technical Schools are departments or divisions of junior colleges, technical or vocational schools, specialized high schools, or separate departments of a high school approved by the State Board of Education and used primarily for providing vocational education courses in at least five occupational fields for the purpose of preparing persons for employment.

Broad classification -- Overall classification of vocational education courses by their subject area. Areas include: Agriculture, Distributive Education, Health, Home Economics, Business and Office, Technical, and Trade and Industrial.

Detailed classification -- Specific categorization of vocational educational training programs from the classification system developed by the Office of Education. (For the listing, see Appendix D, Tables 1 - 3 and 6 - 8).

Feminine-image -- A way of describing occupations which by subjective public opinion are, and by presumption will continue to be held by women. A classification system developed by Saul D. Feldman for professional women in Escape from the Doll's House, (Carnegie Foundation for the Advancement of Teaching, 1974).

High concentration -- Refers to non-traditional vocational programs in which nationally 10.1-25.0% of the students are women (see low concentration).

Low concentration -- Refers to non-traditional vocational programs in which nationally 0-10.0% of the students are women (see high concentration).

Masculine-image -- A way of describing occupations which by subjective public opinion are, and will continue to be held by men. A classification developed by Saul D. Feldman for professional women in Escape from the Doll's House, (Carnegie Foundation for the Advancement of Teaching, 1974).

Math filter -- A term used to describe the situation where women progressing through junior high and high school take too few math courses and thereby are frequently prevented from advancing in non-traditional professional and probably non-traditional nonprofessional occupations.

Metro -- For this report, any school located within a Standard Metropolitan Statistical Area is defined as metro (metropolitan). Since most schools were non-residential, students attending these schools were assumed to reside in the urban area.

Minority -- Includes the following racial/ethnic groups: Black/Negro, Hispanic, Asian or Pacific Islander, American Indian or Alaskan Native.

Mixed (M) women students -- Women students enrolled in any training program in which, nationally, 25.1 to 75.0% of enrolled students are women.

Neutral-image -- A way of describing occupations which by subjective public opinion could be held by either men or women. A classification developed by Saul D. Feldman for professional women in Escape from the Doll's House, (Carnegie Foundation for the Advancement of Teaching, 1974.)

Non-Metro -- For this report, any school which was not located within a Standard Metropolitan Statistical Area is defined as non-metro (non-metropolitan). Since most schools were non-residential, students attending schools were assumed to reside in the surrounding area.

Non-traditional (Nt) women students -- Women students enrolled in any training program in which, nationally, 0.0 to 25.0% of enrolled students are women.

North Central -- Includes the following states: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.

Northeast -- Includes the following states: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

Occupational status -- A categorization of occupations, see definition of High Status White Collar, Low Status White Collar, High Status Blue Collar and Low Status Blue Collar.

Region -- Division of the United States into four major parts as defined by the U.S. Bureau of Census. See definitions of Northeast, North Central, South and West.

South -- Includes the following states and district: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia.

Standard Metropolitan Statistical Area (SMSA) -- A county or group of contiguous counties which contain at least one city (central city) with 50,000 or more inhabitants, or twin cities with a combined population of 50,000 or more. The number or designation of counties included in the SMSA in addition to the county containing the central city (or cities) is determined by the social and economic integration of those counties with the central city (cities). For specific criteria, see 1970 Census of Population, U.S. Bureau of Census.

Traditional (T) women students -- Women students enrolled in any training program in which, nationally, 75.1 to 100% of enrolled students are women.

West -- Includes the following states: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

Appendix G.-- Statistical Symbols

APPENDIX G

Statistical Symbols

In testing hypotheses, two tests were used: 1) Chi-Square, and 2) the difference between two proportions. (For details, see Methodology.) Rejection of null hypothesis is indicated in the appropriate tables by footnotes, or asterisks (*) next to data in the table. 1/

The level of significance of the test is indicated by the number of (*)'s after the variable in the stub or after the appropriate footnote.

* indicates $p < .05$
** indicates $p < .01$
*** indicates $p < .001$

The following footnote symbols were used to show significant for a Chi-Square Test (x^2):

(Nt-T), (Nt-M) - this indicates a rejection of the null hypothesis that the distribution of the specified variable is the same for the non-traditional and traditional (non-traditional and mixed) samples.

(Nt), (M), (T) - this indicates a rejection of the null hypothesis that the distribution of the specified variable is the same for two or more subgroups of Non-traditional (Mixed) (Traditional) students.

The following footnote symbols indicate significance for a test of the differences between two proportions:

*** Asterisks near data in the table indicate rejection of the null hypothesis that the proportion was similar to the proportion for the non-traditional sample. The level of significance is indicated by the number of asterisks.

a-a (b-b, etc.) - this indicates the rejection of the null hypothesis that the two footnoted proportions are similar.

1/ Where no footnotes or asterisks in the stub are indicated, either the null hypothesis was not rejected, or no hypothesis was formulated.